THIS WEEK'S National Petroleum NEWS

Coming Meetings

Indiana Petroleum Association, Severn Hotel, Indianapolis, Ind., May 6, 7.

American Gas Association, Natural Gas Department, Memphis, Tenn., May 11 to 14.

American Oil Chemists Society, New Orleans, La., May 14, 15.

Natural Gasoline Association of America, Mayo Hotel, Tulsa, May 19, 20, 21.

Fire and Safety Marshals, National Petroleum Association, Warren, Pa., May 28.

American Petroleum Institute, Division of Production, Baker Hotel, Dallas, Tex., June 3, 4.

American Society of Mechanical Engineers, National Oil & Gas Power meeting, Madison, Wis., June 15 to 18.

Society of Automotive Engineers, White Sulphur Springs, W. Va., June 15 to 19.

American Society for Testing Materials, Chicago, June 22 to 26.

National Petroleum Association, Hotel Traymore, Atlantic City, N. J., Sept. 16, 17, 18.

American Institute of Mining and Metallurgical Engineers, Petroleum Division, Houston, Tex., Oct. 2, 3.

American Petroleum Institute, annual meeting, Stevens Hotel, Chicago, Nov. 10 to 12.

Third International Conference on Bituminous Coal, at Carnegie Institute of Technology, Schenley Park, Pittsburgh, Pa., Nov. 16 to 21.

Geological Society of America, Mayo Hotel, Tulsa, Dec. 28 to 31.

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J. A. VICKERS, president of the Vickers Petroleum Co., Wichita, Kans., left the grain business at Kansas City to enter the oil industry in 1917. The following year he organized the Vickers company and built its refinery at Potwin, Kans. The company is a producer as well as refiner.

When not too closely tied down by the affairs of his company Mr. Vickers is a polo player of considerable ability. At his farm near Wichita he raises and trains a large string of ponies, and in addition keeps on hand a few hunters and race horses.

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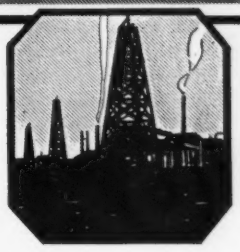

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Vol. 23 CLEVELAND, April 29, 1931 No. 17

Future of Oil and Automotive Industries As Engine Experts View Them

By Arch L. Foster
N. P. N. STAFF WRITER

CLEVELAND, April 25

THE automotive and oil industries need to take advantage of known principles of design and manufacture which will improve motor flexibility and expand oil and motor markets.

Expansion of the two industries must come largely through development of new uses, new outlets for products already developed or producible.

These opinions on the future of the two related industries were given the National Petroleum Association, meeting in Cleveland, April 23 and 24, by H. L. Horning, president of the Waukesha Motor Co., a recognized authority in the automotive field.

Mr. Horning stated that his company has determined there are 18 major industries at present in which the automotive or internal combustion engine should be substituted for older and more expensive forms of power. Because of lower first investment and operating costs a number of industries have already substituted gasoline engines for other power sources he said.

Among these were mentioned the use of gasoline for steam engines on "steam" shovels, as drilling power in oil fields to supersede steam, as substitute for coal in various industries, "and," he added in humorous vein, "gasoline for religion."

The most significant fact in the present situation, Mr. Horning believes, is the relative insecurity of any modern industry from encroachment by another newer industry, as compared to the conditions in the past. The oil and automotive industries are continually faced with the threat of substitutes to supplant their products, he said.

Such a situation brings out the necessity for continuous and strenuous effort to so perfect their products that no substitute can be as useful for the purpose as the older product or that produced from the older source.

He said that, in the next 10 years, new gasoline motors to be developed would show an efficiency in power production unheard of up to the present time. He described a new experimental motor recently designed, which produces just four times the amount of power given by the present Ford engine of the same cubical capacity. This design takes advantage of the more recent knowledge discovered regarding the "bottlenecks" which prevent the engine from developing its maximum efficiency.

Some of the hindrances to efficient engine design, which must be corrected by either the oil or automotive industry, are: low manifold efficiency; detonation quality of fuels and with it the maximum permissible compression ratio; limitations of engine speeds; proper lubricants and lubrication systems.

ALL must be developed and expanded before the gasoline engine comes fully into its own as a prime mover.

According to Mr. Horning, the modern engine suffers acutely from lack of "breathing power," or what may be termed "shortness of breath." The speed, power, and efficiency of the gasoline motor is throttled by the present design of the intake manifold, which limits to a de-

gree the charging of the cylinders with the combustion mixture.

Engines are already designed, he said, in which the manifold is larger than the remainder of the engine, with the result that the horsepower per unit of engine weight is increased manyfold. Experimenters on the other side of the Atlantic have made great strides in this direction, he observed during a recent trip to European manufacturing centers.

H. L. Horning

THE threatened shortage of motor fuel during the World War was the mainspring which actuated the formation of the Co-operative Fuel Committee, which was formed with the assistance of the National Automobile Chamber of Commerce, Society of Automotive Engineers, American Petroleum Institute, the Bureau of Standards and Bureau of Mines.

"I hesitate at this time, to use the figures, so great are they, which represent a conservative estimate of the increase in gasoline production due to this cooperation," the speaker said.

This co-operative committee has a subcommittee which is working out a standard method of detonation or knock rating for motor fuels. The sub-committee is commonly known as the detonation committee.

The work of the detonation committee is rapidly coming to a close, he observed. A standard engine has been developed, primary and secondary reference fuels have been adopted and their supply made certain for a long time, and only a few of the more minor details of the standard method remain to be ironed out before this test method is available for universal use.

The perfection of this method of detonation rating will add immensely to the total amount of satisfactory fuel available from crude oil, in the opinion of Mr. Horning. He stated that improvement of knock values of fuels incident to the standardization of a test method and therefore in standardization of fuel ratings may be expected, and that, within a year, by the summer of 1932, probably, it may be practical to use a 5.5 to 1 compression ratio in a 3½-inch bore engine. This, he says, will mean an increase of 10 per cent in operating economy on fuel, and will be a great aid to the entire mechanism, especially the exhaust valve.

Mr. Horning stated that, under present conditions, the exhaust valve is the difficult item in the design and operation of the automotive engine. The intense heat to which this valve is subjected limits the entire output of the mechanism. At the temperatures reached, the silicon in the high-silicon steel used in making the valve is drawn actually to the surfaces of the valve and seat, which are cut away, warped, and distorted at an alarming rate.

THIS condition can and will be corrected by improvements in the combustion characteristics of the fuel mixture, so that the burning of the fuel at high speeds will have been completed before the gases start to pass through the exhaust ports, reducing the exhaust gas temperatures and the resultant wear and tear on the valve. A new design of engine by the Waukesha organization induces such turbulence in the fuel mixture in the cylinder that combustion is almost entirely completed before the exhaust begins with the resulting advantage in both power developed and lessened punishment of the exhaust valve.

But if the modern engine is to function at its greatest capacity, the modern lubricants must do a better job, the speaker remarked.

"If the oil industry had not made a lubricating oil that had the property of sneaking into small crevices," he stated, re-

(*Continued on Page* 30)

Principles of Activity for the Closely Allied Oil and Automotive Industries to Follow to Survive and Expand in the Coming Period of Intense Industrial Competition

(As outlined by H. L. Horning, president, Waukesha Motor Co.)

Develop production methods to give better products.

Decrease the unit price to the public.

Intelligently oppose special legislation which tends to decrease the use of a product.

Reasonably control the facilities of production.

Keep an accurate picture of the demand for a product to control its production.

Develop new markets, new inventions, and research.

Oppose trade barriers which tend to suppress international trade.

Widen the freedom of action of trade associations.

Conserve natural resources by preventing dumping of product below cost of production.

Stabilize industry to permit profitable and economical distribution.

The Editors' Viewpoint

Forget "Potential", for Safe Operating Figure

THE report of the Voluntary Committee on Petroleum Economics of the Federal Oil Conservation Board, made at St. Louis at the meeting of the refining division of the American Petroleum Institute, contains one valuable suggestion which the industry should not overlook. This is that a more accurate method be developed for taking the potential production of new flush oil pools.

The high figures on possible daily yield now used have scared a great portion of the industry into a blue funk. Millions of barrels are tossed about, in the industry's discussion of possible production, and accepted by the public as solemn fact. Predictions that oil will be selling at five cents or 10 cents per barrel grow from the distorted potential figures made up on the basis of a few minutes or a few hours flow, a rate of production which would not be held up for more than a few hours, in many cases.

It will be helpful to have a study made and a technic set up for appraising the extent of the available developed oil supply. Let us suggest this new procedure:

"Potential", as now used, means the full possible production of wells in a single 24-hour period. It is too often set up by taking a short time gauge and computing it to 24-hour basis. Such a standard of measurement is highly fictitious. In the first place, a sustained flow of 24 hours would not exceed 75 per cent of the amount given as total potential and, in the second place, there is no sound reason why anyone should expect that the highly flush oil fields should ever be operated in that manner.

Let us take a mythical field which might be considered as a composite of several fields now pointed to as containing the elements of industrial disaster. Assume that such a field has a rated potential, arrived at through individual well gauges of two hours, of two million barrels.

It is known that full production would reduce the field to one of minor proportions within a short period. It is of the type that would suffer rapid encroachment of water. It would not be in line with a policy of conservation to operate the field in a such a manner, as there would be left forever in the sands a residue of oil that would be recovered under a system of operating that pays due attention to control of gas energy.

The potential of such a field, therefore, is not the mythical figure that has been set up by taking short-time gauges. It is, or should be considered, that amount that can be obtained daily in a manner that will yield the greatest final amount of oil together with the conservation of gas, not alone because of the value of the gas in recovering oil but for fuel purposes. In our suppositious field, the engineering committee might find that such proper daily production would be 200,000 barrels per day.

For all practical purposes, then, isn't 200,000 barrels the potential of the field? We may liken it to the case of a man who has been left a legacy of a million dollars under conditions which permit him to take from interest thereon only $20,000 per year. Now he may make a great parade of his wealth and talk largely about owning a million dollars, but the fact is he must live on $20,000. For all practical purposes, therefore, his fortune is just that amount each year.

Proration, resorted to in the beginning as an expedient, has taught the industry a few things. In more than one field it has affected real conservation. In fields of the Seminole district the orderly withdrawal of oil has resulted in an orderly movement of the water from the edges of the several fields, flushing the sand of its oil and replacing that which is taken out. This is easily demonstrated. In the recent 10-day gauges of the Seminole district fields it was found that leases located toward the center of the field have a greater potential production today than a year ago.

WE HAVE recently had expert testimony to the effect that the fields of West Texas, such as Yates, cannot safely be produced at a greater rate than they now are. Yates is rated potentially at several million barrels daily. But, if it cannot be produced, without hazard to the entire investment, at more than 90,000 to 125,000 barrels daily, isn't that lower figure its potential—for all practical purposes?

Oklahoma City, on the basis of four-hour gauges, was given a rating in January of more than six million barrels as a 24-hour potential. The state corporation commission discarded that absurd figure and substituted one of two million barrels. Admittedly, the lower figure was a random guess. Yet, many engineers who have worked with the field from the beginning, who know the rate and danger of water intrusion, believe that the safe operating figure is somewhere below 250,000 barrels per day. Then,

for practical purposes, what is the potential of that field?

A strong committee of engineers, assigned to study this question of potentials, can be quite helpful if they are assigned as part of their duties the task of ascertaining the figure at which each field can be produced so as to make for the greatest ultimate yield of oil from the field.

A new look at the whole production situation is required. The mere reduction of the so-called potentials to smaller figures will do something to allay the fear under which the industry now moves. To make its work positive, however, the suggested committee should get into the question of what is "safe" production in each of the prorated fields of the United States. The only purpose of the so-called potential would be as a basing point on which to allocate the "safe" production.

Association Meetings

THE semi-annual meeting of the National Petroleum Association, held last week in Cleveland, presented a carefully prepared constructive program. It was well attended despite the fact that the American Petroleum Institute had held its refining division meeting the previous week at St. Louis.

The recent annual meeting of the Western Petroleum Refiners Association at Excelsior Springs, Mo., was placed in the same position by the fact that the institute had held its marketing division meeting the previous week at Chicago.

This close schedule is unfortunate because it doubtless prevents many petroleum executives from attending some of the meetings.

The refiners associations have a loyal membership, are well established and are serving a useful purpose in the industry's affairs. The general arrangement of meetings should be accommodated to these facts and the schedules should not militate against attendance at any important meeting.

For many years the Western Petroleum Refiners Association has held its annual meeting early in March, the first or second week. The National Petroleum Association has held its spring meeting the third week of April. The Natural Gasoline Association of America has held its convention in the third week of May. The American Petroleum Institute's annual meeting is well established for the second week of November.

These are only a few examples of the important meetings scheduled on fixed dates from year to year. Executives of other associations should take these established dates into consideration when planning their meetings.

Oil and Automotive

(*Continued from Page* 28)

ferring to early experiences, "the engine maker would have been sunk." The inadequacy of former lubricating system designs has been in considerable measure corrected, he said, and the future lubricant must perform a job that it has never been called on to do.

At least five oil companies now are regularly producing an oil possessing the necessary qualities to function properly in the engine of tomorrow but this quality of lubricant must be generally available if the common use of the better engine is to be possible, stated Mr. Horning. The oils must withstand high bearing pressures and speeds, must resist decomposition under high temperatures and must be usable under wide variations in operating conditions.

Diesel fuels must become standardized, before the obvious advantages of the diesel cycle can be utilized. A newer design of engine embodying the advantages of both the diesel and the automotive gasoline engine is in the offing, and may represent the type of engine employed in future, he believes. In the Chicago railroad yards, 600-horsepower automotive engines are attaining diesel efficiencies with gasoline engine flexibility, and at the same time paying the gasoline tax on the fuel, he observed.

Two factors with which the automotive industry and the oil industry must reckon in the future are the threat of substitutes, and the problem of finding new uses for these products, he said. It has been only in the twentieth century that the state of instability has been acute in all industries due to the danger of substitutes being developed. No industry now can rest on its laurels or relax its efforts to broaden the application of its products or their efficiency in use, due to this threat being always present.

AN ADDITIONAL account of the National Petroleum Association meeting with some of the papers presented will be found in this issue beginning on Page 40.

On account of the unprecedented change in world economic conditions during the last 30 years, industry in general faces an entirely new prospect, Mr. Horning believes. When the anti-trust laws were written, it appeared necessary to prevent monopolies and the stifling of competition; hence the Sherman law. Strides in communication, in world trade, in the influence on one section of the world of changed conditions in another country, which are felt almost immediately, he believes are having the effect of breaking down the barriers which are not only no longer necessary, but must be eliminated if industry is to survive and is to be able to meet rapid changes in such a manner as to weather the storms properly.

"Industry is facing a period in which it must be free of petty provincial restrictions so as to meet quickly the world influences and the vast changes which threaten it," he stated.

How to Compete with Blue Gasoline Discussed by Kansas Jobbers

By Allen S. James

N. P. N. STAFF WRITER

WICHITA, Kans., April 24 DISCUSSION of how Independent marketers can meet the competition of the new blue gasoline introduced recently over its territory by Standard Oil Co. of Indiana, to sell 2 cents below the price of the Red Crown standard grade, featured the meeting of the Kansas Oil Men's association here April 23 and 24.

A new "cash and carry" plan for selling gasoline at lower prices to customers who come to the bulk plant was explained by the company that recently adopted such a sales policy.

Interpretations of the new refund provisions of the Kansas gasoline tax law were explained to the record attendance, more than 400 oil men registering.

Every time two or more jobbers congregated, in the lobby of the hotel, in rooms or at the luncheon tables, the first question asked was: "Are you going to put in blue gasoline?" And the discussion was on.

The general discussion on this subject was held April 24. A. C. Carpenter, Lesh Oil Co., Ottawa, president of the association said it was his opinion the new blue gasoline was here to stay.

He advised marketers not to meet this competition "with the cheapest gasoline you can buy," but with a gasoline at least as good if not a little better than the competitor's grade. He warned against attempting to market "kerosine blends" or gasolines with too high an end point. It was Mr. Carpenter's opinion that jobbers would have to meet the blue gasoline competition, and said he believed the marketing situation would straighten itself only "when every one quits cutting prices or giving secret rebates."

Mr. Carpenter saw in the new gasoline a challenge to salesmanship. He suggested the competing marketer, instead of asking a customer if he wanted "red, white or blue," ask if he "wanted the first, second or third grade of gasoline." The average motorist, in Mr. Carpenter's opinion, will hesitate about buying the lowest grade, unless he has already made up his mind to buy on price.

Distillation test of blue and white gasoline samples obtained at Wichita, presented at the meeting of the Kansas Oil Men's Association.

White	Spec.	Blue
25	Color	blue
60	Grav.	60
90	I. B. P.	90
158	10%	160
196	20%	204
224	30%	236
250	40%	264
270	50%	292
298	60%	316
324	70%	338
342	80%	362
384	90%	386
416	E. P.	416
97%	Rec.	96.5%

While some of the jobbers present said they were still undecided, the majority, to judge from the discussions, will or already have made arrangements to handle a third grade of gasoline at their stations.

An explanation of the "cash and carry" plan of marketing recently inaugurated by the Golden Rule Refining Co., Wichita, was made by E. S. Rule, president of the company. Mr. Rule said that he had felt for some time that marketing policies in general use were too costly and the spread between tank car and tank wagon prices was a little too wide for the general good of the oil jobber.

His company will sell 40 gallons or more delivered to a customer who comes to the company's bulk station, at a price based on the tank car cost plus a small handling charge. On tank wagon deliveries and at service stations the regular price schedules will be maintained, he said.

Every sale will be strictly for cash. No agent will be permitted to extend credit, Mr. Rule said, unless that agent assumes responsibility for the debt. The agent must pay cash to the company. When an agent does extend credit, he will have to pay that amount out of his own pocket, and do his own collecting.

In justification of the plan, Mr. Rule said he had observed countless times that a farmer would drive to town with a loaded truck, call at the oil company's office and order a quantity of gasoline delivered to his place several miles in the country, and then follow the oil company's tank truck with his own empty truck.

"The farmer did not haul his own gasoline because it did not cost him any more to have it delivered," Mr. Rule said. "We believe that when he can save money he will do his own hauling."

UNDER the old plan an agent would deliver 200 gallons of gasoline 20 miles in the country, his commission being $5, said Mr. Rule. Under the new plan his commission would be $1 and he would not have to pay for the time of a truck driver, for the oil and gasoline used in the trip, or for wear on his truck.

Mr. Rule said he had not been able to determine yet how the plan will work, but added that it was not the intention to work

any hardship on legitimate competition.

Mr. Rule also joined in the discussion on blue gasoline. He said that his chemist bought in Wichita both white and blue gasoline, and had run distillations on the two samples. He also had a commercial chemist run tests, and said he had the two samples at his office and would be glad to have any other interested parties run distillations.

The results of the distillations, as given by Mr. Rule, are shown in the accompanying table.

After Mr. Rule read the distillation figures, Mr. Carpenter said that he had heard, although not through any channels that could be considered official, that Standard Oil Co. of Indiana was planning to raise the blue gasoline up to the specifications of the present Red Crown grade, and to make Red Crown a high test grade.

Seth G. Wells, state oil inspector, Topeka, started a two-hour discussion April 23 when he spoke on "The New Tax Refund." Jobbers kept him busy answering questions, mostly for interpretations and rules to be followed in specific sales.

O. J. McClure, Chicago, spoke on "A New Way to Cut Selling Costs," and "Your Selling Problems as I Find Them." Other speakers included Ralph Matthews, Battenfeld Grease & Oil Co., Kansas City, on "Specialized Automobile Greasing"; Roy Spear, Inter-State Oil Co., Kansas City, on "Diesel and General Lubrication," and I. B. Morgan, chief chemist, Pennsylvania Petroleum Co., Kansas City, on "Knotty Problems in the Application of Lubrication."

At the banquet April 23 Thurman Hill, recently appointed to the Public Service Commission of Kansas, talked on "How A Country Lawyer Views the Oil Situation."

"On account of the price reduction in crude oil," Mr. Hill said, "the people of Kansas this year will suffer a loss of approximately $20,000,000. This means $10 for every man, woman and child in the state. . . .

"While I wish it understood strictly I am not speaking for the governor or attempting to bind the commission by this utterance, I wish to say that, in the administration of the new proration law, the Public Service Commission proposes to move slowly and cautiously and does not intend to use the provisions of the act except in case of great emergency. At this time we are seriously considering appointing a committee of five or seven outstanding oil operators to act as agents for the commission for the purpose of receiving complaints of discrimination and preference. . . .

"It is my personal opinion . . . that greed on the part of the oil monopolies and the independent producers . . . have caused the present prices."

New Kansas Officers

A. C. Carpenter, Lesh Oil Co., Ottawa, as usual, was re-elected president of the Kansas Oil Men's Association, the seventh year he has held this office.

And, as usual, A. W. Long, Manhattan, was re-elected treasurer, entering upon his 17th year as holder of that office.

John A. Motter, of course, was re-elected secretary—the ninth year he has held those particular reins.

Other officers elected are:

First vice president—R. W. Beach, Beach Oil Co., Abilene.

Second vice president—H. V. Mering, Mering & Son Oil Co., Great Bend.

Third vice president—H. T. Ackerman, Ackerman Oil Co., Liberal.

Fourth vice president—R. M. Marks, Cunningham & Marks, Baxter Springs (re-elected.)

Effect of Heat on Metals

NEW YORK, April 27.—The American Petroleum Institute will contribute $1000 per year for the next three years to an investigation into the effect of temperatures on the properties of metals. Research will be carried out under the direction of the A.S.T.M. and American Society of Mechanical Engineers.

Make Liquid Helium

WASHINGTON—The Bureau of Standards produced liquid helium for the first time in the United States April 3.

Shell Against Marketing A Third Gasoline

NEW YORK, April 25.—"The Shell Companies feel it unwise to attempt to meet 'bootleg' prices of gas by marketing a low quality product," stated F. Godber, a managing director of the Royal Dutch Shell group, who arrived in this country a few days ago.

In recent years the Shell companies have improved the quality of their gasoline and have generally advocated this policy; inasmuch as smaller quantities of gasoline of superior quality are obtained from a given quantity of crude, than of inferior gasoline, Mr. Godber pointed out. Thus the tendency has been to reduce the total quantity of gasoline produced.

"The production and sale of low quality gasoline to compete with that offered by 'bootleggers' will result in increased output and consequently a further bad effect upon the market," he went on. "One would like to see improved qualities all around, particularly as this becomes ever more necessary by the trend of automobile development toward higher compression engines.

"Further, it should be remembered that the general distribution of a low quality product will entail very heavy additional capital investments in the way of pumps, tanks and other facilities, thus adding to the already enormous unproductive investment in such facilities. The oil industry can ill afford such an expenditure at this time."

Mr. Godber stated the Royal Dutch-Shell group is in sympathy with the efforts of the Oil States Advisory Committee to stabilize conditions in the oil industry and will do all it can to aid the committee's program.

Ryan Heads Shell Advertising

ST. LOUIS—Paul Ryan, who has been manager of the technical products department of the Shell Petroleum Corp. since 1928, has been appointed advertising and sales promotion manager.

Jobber Uses Lease-And-Agency To Cut Operating Costs

By E. L. Barringer

N. P. N. STAFF WRITER

MEMPHIS, April 22

THE lease and agency contract should be considered a means of adding service stations to a jobber's retail set-up rather than just adding dealers, so said G. B. Dickey, vice-president, Apex Oil Corp., Nashville, at the Tennessee Oil Men's Association convention.

Station operators should not be approached, he explained, with the attitude that a lease and agency contract will give them a 4-cent instead of a 3-cent margin on gasoline. Instead, the operator's station should be considered as becoming a unit in the jobber's set-up, and the operator working as an employe on a commission.

With this attitude his company has produced material savings in operating costs, Mr. Dickey said. Larger storage tanks were installed at stations, mainly 1000 gallons capacity and a few 550 gallons, so larger dumps could be made on consignment since the operator was a commissioned employe rather than a dealer buying goods as needed.

One saving was made with a 1500 gallon semi-trailer unit. This trailer had been delivering from 60,000 to 75,000 gallons of gasoline a month. The consignment delivery plan jumped the trailer's volume to 100,000 gallons a month.

Further study showed that by using three delivery hoses at once in making station dumps, and with quick fitting couplings, this unit could be speeded up 1½ hours daily. This added 11 more stations to the semi-trailer's route, and permitted laying up one truck.

These results led to a study of a country route. One truck, for instance, required a week to deliver 420 gallons of gasoline in 22 dumps. Larger dumps were made and the route reduced to three days. Then a neighboring route was rearranged to deliver the same volume in half the time; both routes were combined and one truck eliminated.

A second semi-trailer is being added, and through these larger dumps 90 per cent of the company's business in Nash-

Officials of the Tennessee Oil Men's Association at the convention April 22 in Memphis. Back row: L. W. Collins, executive secretary; R. M. Prichard, Home Oil Co., Ripley; Jack Draughon, Draughon Bros. Oil Co., Springfield; W. H. Hensley, Independent Oil Co., Cookeville; E. E. Johnson, Columbia Oil Co., Columbia; and G. B. Dickey, Apex Oil Corp., Nashville. Bottom row: T. Scott Williams, Consumers Supply Co., Murfreesboro; S. H. Campbell, Campbell Oil Co., Chattanooga, first vice-president; W. D. Hudson, Clarksville Oil Co., Clarksville, president; Lee Brasfield, Dresden Oil & Gas Co., Dresden, second vice-president; and C. P. Cannon, Producers & Refiners Corp., Memphis. Officials not identified as officers are directors in the association

ville will be moved to stations by two semi-trailers, representing about 300,000 gallons a month.

The code of ethics was discussed also at the formal meeting April 22 by C. J. Guzzo, manager for the Gulf Refining Co., Knoxville.

"The controlled station spells stability," he said, in reference to the lease and agency contract.

He cited the practice of pulling and installing equipment frequently at dealer stations not under contract previous to the code, and how the jobber now could use his time to merchandise rather than keep track of his equipment.

A joint meeting with code committees from Mississippi and Arkansas was held by the Tennessee committee April 21 to act on complaints.

Merchandising addresses were given by J. Howard Pile, editor of Chek-Chart, on lubrication service, and by W. M. Gadberry, sales manager, Columbian Steel Tank Co., on semi-trailers at the formal meeting April 22. W. D. Hudson, president, and L. W. Collins, executive secretary, presided.

Improvements in automotive lubrieation, particularly free wheeling, tryon shackles, synchro-mesh and hypoid gears, require specialized greases now over the old days when cup grease would do the job, Mr. Pile pointed out.

To properly lubricate, he continued, it was necessary to have good products, adequate equipment, and the knowledge how to do it.

Statistics of seven stations of a major oil company in the east were cited as examples of increase business brought to a station with specialized lubrication service.

Comparison of sales records from August 1929 to August 1930 with specialized lubrication service showed an increase of 1195 per cent in lubrication jobs and an increase of 192 per cent in gasoline sales.

Jobbers should not turn blindly to semi-trailers, warned Mr. Gadberry, in his address on semi-trailers in the oil industry. Routes and operating conditions should be studied for the most efficient application of this form of transportation.

Some savings cited in the use of semi-trailer units were those of displacing trucks which involves a savings in operating costs as well as insurance and salary for the driver, the displacing of bulk plants by trucking longer distances, the expansion of territory from existing bulk plants without building others in the new territory, and the interchanging of tank and stake bodies.

An experiment has been conducted, he continued, with a flat top tank. Gasoline would be hauled into the country, and on the return load farm produce could be taken back to the city on the flat top.

Aluminum is safe and is recommended where its use results in a savings, he continued. Sixteen months ago an oil company put into operation an aluminum tank unit, and many other companies have followed suit, he said, with only two failures, each by fire resulting from an accident.

The advertising value of semi-trailers is not to be overlooked, Mr. Gadberry concluded. He emphasized the eye-value and the impressiveness of a semi-trailer passing through traffic.

A. P. I. to Ask Changes In Auto Fuel Lines

NEW YORK, April 27.—Relocation of gasoline fuel lines on automobiles to avoid vapor lock is to be sought by directors of the American Petroleum Institute. Co-operation of the National Automobile Chamber of Commerce and the Society of Automotive Engineers will be sought.

The action was taken following presentation of a paper by Dr. O. C. Bridgeman of the U. S. Bureau of Standards, at the recent St. Louis meeting which showed that present design of fuel systems limits the volatility of gasoline which may be used in many cars.

Two measures before the Tennessee legislature pertaining to our industry were discussed by association members from the floor. The legislature reconvenes May 25.

One bill is to increase the state gasoline tax 1 cent, making it 6 cents a gallon. The additional cent would be spent on county roads, the fund being administered by the county judiciary. The other measure is to increase the privilege tax on bulk plants so all would pay the maximum of $1200 annually.

Some members favored opposition to the gas tax bill, especially through an educational program in the state press pointing out the additional tax burden on the motorists.

Other members favored opposition to the manner of dispensing the funds from the 1-cent tax. The county highway commissions were favored to handle the funds rather than the county judges. This tax would raise about $2,000,000 a year.

The proposed privilege tax bill would base the tax on volume rather than on the population of the county. At present bulk plants in less populous counties pay a total $300 a year for state, county and city privilege tax, and the large cities pay $1200 annually.

Any bulk plant moving less than 20,000 gallons a year would be taxed $300; from 20,000 to 60,000 gallons $600, and from 60,000 gallons up $1200, irrespective of the size of the town.

In spite of the graduated tax it was pointed out that it would cover all bulk plants as none would be small enough to come in the lower brackets. It includes also retail bulk station storage tanks, the same as bulk plants used for jobbing gasoline.

A quick calculation showed that this privilege bill, in its present form, would cost the Standard Oil Co. of Louisiana about $13,000 a month, and the Gulf Refining Co. about $6,600 a month.

The plant doing business in the millions of gallons a year would be in the same tax class, irrespective of the size of the town, as the plant selling a few tank cars a month.

Lathrop discovery well of the Arkansas Fuel Oil Co., northwest of Longview, Gregg county, East Texas

Proration is Stabilizing Market For East Texas Crude

By Paul Wagner

N. P. N. STAFF WRITER

HOUSTON, April 25

THE new East Texas oil fields are officially under proration at a maximum rate of production of 130,000 barrels daily.

The order came April 23 from the Texas Railroad Commission, the state's agency in enforcing regulatory statutes pertaining to oil and gas. It is virtually the result of a truce between the local operators, anti-prorationists for the most part, and state authorities and major operating companies which sought to bring the new fields into the general proration program in the state.

Production from the East Texas district previously had reached above 250,000 barrels daily.

With proration ordered established, principal companies operating in this territory, in Gregg, Rusk and Henderson counties known as the Sabine Uplift, posted crude price schedule at a maximum of 67 cents a barrel for crude testing 40 degrees gravity and above.

Virtually all the crude from these new fields tests 39 to 40 gravity or higher, making the prevailing posted price 65 cents or more a barrel, and at the same level as in the older fields of the Mid-Continent.

Contract crude sold to Independent purchasers for railroad tank car shipments continued to move out of the district at 20 to 40 cents a barrel at wells; but proration at least has tended toward price stabilization.

Proration is designed to establish equitable restricted production and prevent such sales as one reported in which a producer was said to have sold 17,000 barrels for spot delivery at $1700 to meet labor obligations, 10 cents a barrel. With proration actually functioning each producer is assured outlet for his prorated share of the oil marketed.

The Gulf interests April 23 followed the Humble Oil & Refining Co.'s April 21 schedule and posted the 67-cent top price for East Texas crude, notwithstanding that the Gulf had

Little Headway Made In Curtailing

(By Telegraph)

HOUSTON, April 27.—While operators argued before the Texas Railroad Commission at a hearing at Longview today for an increase in allowable production in East Texas fields to 160,000 barrels daily, production in this district has virtually been at the dictate of the individual lease owner, consequently, little headway has been made in actual curtailment.

Failure of some smaller operators to conform to the state's proration order caused some larger companies to also open their wells again.

Revision of the state's order is asked to allow the Joiner area of East Texas to produce 65,000 barrels daily, Kilgore 60,000, Lathrop 35,000 barrels.

steadfastly maintained it was not a common purchaser.

Magnolia Petroleum Co. posted the 67-cent schedule several weeks ago, when its pipeline first began to handle Sabine Uplift crude.

Pending completion of well gaging, operators were telegraphed by the Texas Railroad Commission April 23 to produce on the basis of per well allowables of 571 barrels in the Kilgore area and 400 barrels in the Joiner area.

The Lathrop area of Gregg county, with 36 completed wells, had not been adjusted to its unit basis, permitting the setting of a per well allowance. The area has 30,000 barrels daily allowable to May 15, however, so its per well figure will be higher at present than the allowable in the Kilgore and Joiner areas.

Lathrop area production was to be figured 50 per cent on well potentials and 50 per cent on acreage in 40-acre units. Until gaging could be completed and acreage adjustments made on a 20-acre unit basis, the Kilgore-Joiner per well allowables were relatively arbitrary.

Stabilization of Sabine Uplift production was made possible under a truce effected by prorationists and anti-prorationists at Austin, April 21[1].

A court injunction obtained by Carl Estes, Tyler, an anti-prorationist, was suspended until July 1 under the truce.

If the agreement reached at Austin is found satisfactory it may be continued after July 1, or it may be modified to fit the pattern of production and demand July 1.

Former Governor Dan Moody, as counsel for the East Texas Lease, Royalty & Producers Association, joined with its president, Judge Charles L. Brachfield, in telling the court that granted the Estes injunction, that although they assented to the truce they did not concede the commission had power to make a valid, or legal, proration order. They reserved the right to oppose any future order the commission might make.

The truce was also barred as evidence in any future action that might be taken against the commission by the anti-prorationists.

The truce provides that a central advisory committee of 11 for East Texas report its recommendations directly to the railroad commission and not to, or through, the Central Proration Committee of Texas, and that no other committee shall function or have power to make recommendations as to the East Texas fields.

Advisory committees for each of the three Sabine Uplift region areas shall continue to function but shall report to the central committee.

"While ratable takings and enforcement of the common purchaser law are urged to be practiced in the East Texas area," the truce agreement reads, "it is understood that the question of distribution and markets as between fields is not included in this recommendation. That question is left entirely in the hands of the railroad commission with no recommendations being made.

The question of the consolidation of the three areas into one was left open until July 1 and will be decided then on a basis of facts as they exist then.

The unit plan was modified. In the Joiner and Kilgore areas each producer owning a separate lease of 10 or fewer acres may produce on the basis of a half unit. If he owns 10 to 20 acres he may produce on the basis of a whole unit. In the Lathrop area each producer owning a separate lease of 20 or fewer acres may produce on the basis of a half unit, and if the lease is 20 to 40 acres on the basis of a whole unit.

The unit is to be calculated on ownership on the date of the modified order. Divisions of tracts after that date are not to be considered.

Air and gas lifts are prohibited.

Charles F. Roeser of Roeser & Pendleton, Inc., Fort Worth, operating in the Lathrop area, is chairman of the East Texas central advisory committee. Other members are:

Warren L. Todd, Simms Oil Co., Dallas; H. R. Dickinson, Arkansas Fuel Oil Co., Shreveport, and J. Fred Stuckey, representing royalty owners; from the Lathrop area.

John R. Suman, Humble Oil & Refining Co., Houston; C. H. Hardison, Houston Oil Co. of Texas, and Roy H. Laird, representing royalty owners; from the Kilgore area.

Jack Roberts, Robert Oil Corp.; Glenn Harroun, Sinclair Oil & Gas Co., and John R. Alford, representing royalty owners; from the Joiner area.

Gus Taylor, representing Smith county, where one well has been completed in a westerly extension of the Joiner area.

Members of field committees subsidiary to the central committee are:

Lathrop area: Messrs. Roeser, Todd, C. H. Pape, Selby Oil & Gas Co., and T. F. Rothwell, Yount-Lee Oil Co.

Kilgore area: Messrs. Hardison, Suman, J. S. Bridwell, Federated Oil Co.; J. R. Partin, Woodley Oil & Gas Co., and John W. Olvey.

Joiner area: Messrs. Roberts, Harroun, Gillette Hill, Moody-Seagraves interests; 'Gene Fitzpatrick, Deep Rock Oil Corp., and F. W. Merrick, Ward Oil Co.

Third Well in East Texas Showing Salt Water

HOUSTON, April 27.—Turman Oil Co.'s A-1 Brightwell completion, near the southwest corner of the Humble Oil & Refining Co.'s Crim block, in the Kilgore area, East Texas, was the district's third important well to show salt water.

Drilled to keep to a subsea level of 3357 feet, it made large quantities of water with a total fluid production of 800 barrels hourly. Luling Oil & Gas Co., and Humble offset wells have felt no encroachment as yet.

[1]National Petroleum News, Page 19, April 22, 1931.

Governor Sterling to Address A.P.I. Production Division Meeting

NEW YORK, April 27 GOVERNOR Ross S. Sterling has been invited to address the mid-year meeting of the production division of the American Petroleum Institute at Dallas, June 2 to 4. Conservation, proration and other general policies, as well as technical subjects, are on the program.

Committee meetings will be held June 2. General sessions at the Baker hotel will begin June 3. Following is the program:

June 3 Morning Session

Efficient Operation of Pumping Rigs, W. C. Shutts and M. Bowman Thomas, Humble Oil & Refining Co.

High Volumetric Efficiency in Oil Well Pumping, H. N. Marsh, B. H. Robinson and D. H. Kingman, General Petroleum Corp. of California.

Power Transmission Efficiency of Pumping Wells, C. L. Shirley and J. T. Haywood, Shell Petroleum Corp. This paper is tentative as yet.

A Method of Determining Proration Allowances in Prorated Fields, H. D. Wilde, Jr., and T. V. Moore, Humble Oil & Refining Co.

June 4 Afternoon

Governor Sterling is expected to speak at this session. Robert R. Penn, vice president of the institute for production, also is to deliver an address. Warner Clark, Standard Oil Co. of California, will talk on proration. Legal aspects of gas conservation in production will be discussed by R. E. Hardwicke, an attorney.

An evening session to which the public is to be invited will be a discussion meeting of the Central Committee on Drilling and Production Practice.

June 4 Morning

Report of the A. P. I. Research Associate on Corrosion at the Bureau of Standards, by Gordon N. Scott, associate.

Legal Phases of Oil Field Pollution, R. S. Cole, Gypsy Oil Co.

Economic Aspects of Accident Prevention, George F. Prussing, Union Oil Co. of California.

June 4 Afternoon

Development, Reclamation and Disposal of Rotary Mud in California, E. P. Tallant, Union Oil Co. of California, prepared in co-operation with California District Drilling Practice Committee.

Drilling Fluid Problems and Treatment in the Gulf Coast, C. P. Parsons, Halliburton Oil Well Cementing Co.; W. T. Doherty, Humble Oil & Refining Co.; and Stanley Gill, Gulf Production Co.

Oil Field Boiler Tests, H. M. Harris and J. E. Eckel, Humble Oil & Refining Co.

Internal Combustion Engines for Rotary Drilling, David L. Trax, Gypsy Oil Co. and R. R. Hawkins, The Texas Co.

Hard Surfaced Rotary Bits, Blaine B. Westcott, The Gulf companies.

Directors of the institute will meet at the Texas Hotel, Fort Worth, June 5.

Many Companies Meet New "Gas" Competition

CLEVELAND, April 28.—Major marketing companies in the middle west are putting low priced gasoline into their stations, or reducing prices of their regular grades, to meet wholly or partly the competition recently introduced by Standard Oil Co. with its Stanolind Blue at 2 cents less than Red Crown gasoline.

Shell Petroleum Corp. has reduced the price of its regular grade 1 cent a gallon at points where the blue gasoline is sold. Phillips Petroleum Co. has lowered the price of its regular grade to the price levels of the blue gasoline.

Sinclair Refining Co. in St. Louis has put out a green gasoline which is selling at 9.9 cents including tax. This price is 1 cent under the blue gasoline price. Trackage stations are selling as low as 8.5 cents, including tax, in the suburbs of St. Louis, and regular grades of major company gasolines are 9.9, 10.9, 11.9 and 12.9 cents. Ethyl and other anti-knock gasolines are selling up to 15.9 cents.

Mid-Continent Petroleum Co., Skelly Oil Co. and Wilcox Oil & Gas Co. are putting out blue gasolines at their stations in the new competitive movement. Marathon Oil Co. has a green gasoline. It is reported in Tulsa that Continental Oil Co. intends to meet the new competition.

So far Barnsdall Refineries is standing pat on its present products at the regular prices.

The introduction of low price gasolines has been held to competitive points and has not included all of the marketing territories of the various companies.

Accountants Study Gasoline Problems

LOS ANGELES, April 24.—Members of the Los Angeles Petroleum Accountant Society attended a meeting in that city on April 23 to discuss some of the problems encountered in keepings costs on the refining of gasoline.

C. E. Spangler, Western States Gasoline Corp., was chairman of the committee in charge of the program and was toastmaster for the evening.

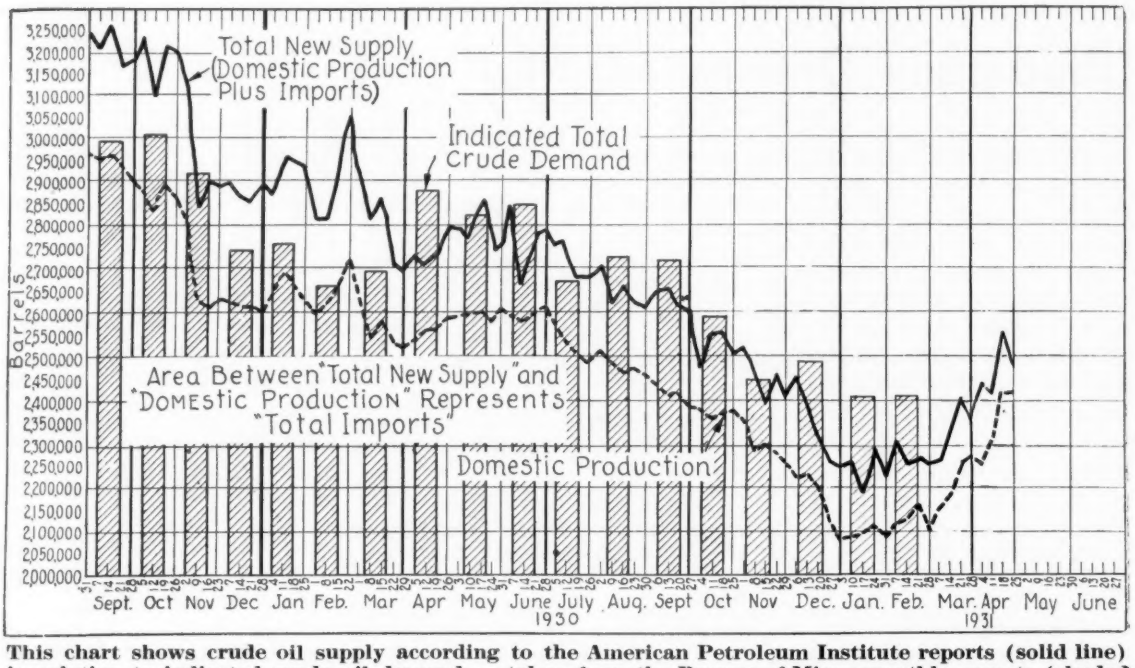
As a prelude to the discussion on problems of gasoline accounting, George F. Burdick, chief sales engineer for C. F. Braun & Co., gave a talk on "The Manufacture of Natural Gasoline," which he illustrated with a diagram and model of a typical plant installation.

He was followed on the program by Carlos E. Andrew, who presented a paper on "Accounting for Natural Gasoline." Mr. Andrew is affiliated with the Signal Oil and Gas Co.

Another paper of interest was read by Fero Williams, Geo. F. Getty, Inc., on "Some Problems in Gasoline Accounting" in which he outlined some of the difficulties in estimating depreciation of refineries and equipment.

The meeting closed with a general discussion of several points brought out in the papers.

Review of Late Production News


Total New Supply (Domestic Production Plus Imports)
Indicated Total Crude Demand
Area Between "Total New Supply" and "Domestic Production" Represents "Total Imports"
Domestic Production
Barrels
Sept. Oct Nov Dec Jan Feb. Mar Apr May June July Aug. Sept Oct Nov Dec. Jan. Feb. Mar. Apr May June
1930
1931

This chart shows crude oil supply according to the American Petroleum Institute reports (solid line) in relation to indicated crude oil demand as taken from the Bureau of Mines monthly reports (shaded columns).

EAST Texas production increased 50,000 barrels daily average to 298,400 barrels per day in the week ended April 25 according to the American Petroleum Institute. This increase was balanced by a cut of 42,400 barrels at Oklahoma City and 9600 barrels daily average in West Texas.

Total U. S. crude production increased 600 barrels to 2,422,600 barrels per day. Imports dropped to 67,000 barrels daily, the lowest figure in recent history and less than half that of the previous week.

Oklahoma, Kansas

WITH a total allowable production of 165,000 barrels daily now in effect in the Oklahoma City field, production continued through the week at a level substantially above the old figure of 125,000 barrels that was revised upward by the corporation commission.

The commission also ordered wells producing 20 barrels daily and less to be exempt from proration. Ten-barrel wells heretofore were exempt. The change was made in view of the lowered price which makes proration of small wells too burdensome to permit of operation.

Current production in this country by pools is found on page 97.

Field developments in both Oklahoma and Kansas were nil. Wildcatting is almost at a standstill and none of the tests now under way is given more than passing thought.

Texas, New Mexico, Louisiana

PRORATION was inaugurated over the week-end in East Texas under a program to limit Sabine Uplift region production to 130,000 barrels daily until May 15, when a step-up to 140,000 barrels is contemplated.

With East Texas included, the statewide allowable production under proration approximates 731,000 barrels daily.

Effective May 1, Hobbs field, New Mexico, outlet is increased approximately 4000 barrels to 36,532 barrels, plus, daily.

A new pay sand at 6529 feet has been found in the Lockport field, Calcasieu parish, south Louisiana, by Union Sulphur Co. Its No. 2 Martha Moss test, Sec. 8-10-9, flowed 2500 barrels of pipeline oil through three-eighths inch choker. Gravity of the oil is 40.9 degrees and the temperature 72 degrees.

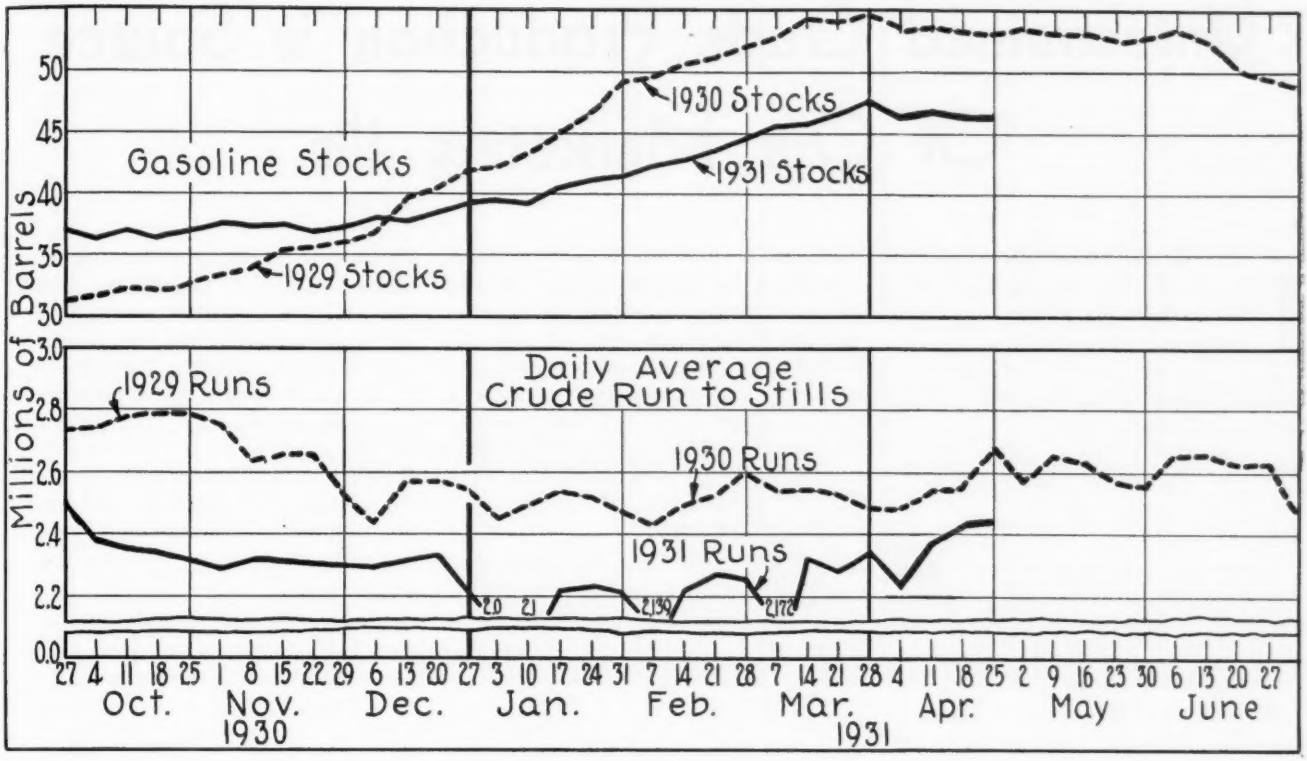
California

IN a test of unproven territory near Wilmington, Los Angeles County, the York-Smullins interests were reported to have lots of gas, a good kick and some oil. The well—Olympic-Watson 1—Sec. 29, 4-13 is bottomed at 3698 feet. It was cleaned out to 3633, but sanded up after showing some oil on a swabbing test.

At Playa del Rey, the Union Oil Co. is thought to have determined the southeasterly boundary of the productive horizon of the field in its Townsite No. 9. The well failed to obtain commercial production recently on a test made with the bottom below 6000 feet.

Superior Oil Co. has announced its intentions to drill another well—the third—on section 29, 21-17, North Dome, Kettleman Hills.

U. S. Crude Runs and Gasoline Stocks as Reported Weekly by A. P. I.



U. S. Gasoline Stocks Increase 67,000 Barrels

By Telegraph

NEW YORK, April 28

STOCKS of gasoline at refineries reporting weekly to the American Petroleum Institute were increased 67,000 barrels in the week ended April 25. Total stocks at the close of the week were 46,451,000 barrels. In the past three weeks stocks have increased approximately 400,000 barrels.

Increases in gasoline inventories were confined to refining districts in the southwest. All other groups reported drafts on storage. Louisiana-Arkansas refiners added 154,000 barrels to their reserves. Oklahoma-Kansas refiners added 66,000 barrels and Texas 20,000 barrels.

California refiners drew 135,000 barrels of gasoline from storage during the week. East Coast refiners drew 114,000 barrels from their tanks in spite of a greater gasoline output caused by an increase of nearly 30,000 barrels in daily crude runs to stills. Rocky Mountain refiners drew 112,000 barrels from their storage.

Refiners as a whole kept crude runs largely unchanged. Daily average charges to stills were 2,432,900 barrels or 68.1 per cent of capacity as compared with 2,434,100 barrels per day or 68.2 per cent of capacity in the week ended April 18. Texas refiners cut their crude runs 44,300 barrels daily average while Louisiana-Arkansas refiners were increasing their runs 27,200 barrels daily.

Fuel and gas stocks increased 566,000 barrels.

Current Refinery Operations

Districts	Per Cent Capacity Reporting	Daily Average Crude to Stills (Barrels) Week Ended		Per Cent of Reporting Capacity Operated Week Ended		Stocks (Thousands of Barrels) Gasoline		Gas & Fuel Oil		Cracked Gasoline Production % of Total Capacity Reporting	Daily Av. Production (Barrels) Week Ended	
		April 25	April 18	April 25	April 18	April 25	April 18	April 25	April 18	April 25	April 25	April 18
East Coast	100.0	483,200	454,900	78.9	74.2	8,900	8,793	7,739	7,733	92.3	85,700	86,600
Appalachian	93.8	88,600	82,100	66.9	62.0	1,824	1,861	1,227	1,216	94.6	18,800	18,400
Ind., Ill., Ky.	97.5	328,200	336,900	86.1	88.4	6,125	6,128	3,595	3,319	95.2	88,300	84,700
Okla., Kans., Mo.	89.4	271,100	276,000	67.2	67.0	3,667	3,601	3,938	3,823	93.0	57,300	50,700
Texas	91.9	560,400	614,700	75.4	82.7	7,953	7,933	9,012	8,839	95.9	117,900	121,100
La., Ark.	98.3	167,300	140,100	63.9	53.5	2,272	2,118	2,327	2,332	97.7	32,900	36,100
Rocky Mountain	93.1	51,000	58,400	36.5	41.8	1,874	1,986	812	819	100.0	16,700	18,900
California	98.8	477,100	471,000	53.8	53.1	13,829	13,964	98,859	98,772	100.0	43,700	50,600
Total	95.7	2,432,900	2,434,100	68.1	68.2	46,451	46,384	27,491	126,335	94.5	461,300	467,100
Texas (Gulf Coast)	100.0	419,300	474,000	79.2	89.5	6,820	6,824	6,546	6,432	93.5	95,400	99,400
La. (Gulf Coast)	100.0	111,900	88,100	75.9	59.7	2,108	1,949	1,309	1,304	100.0	23,900	25,700

Unrestrained Crude Production is Source Of Our Marketing Ills

CLEVELAND, April 24

TO ACHIEVE permanent stability, the oil industry must reverse its thinking.

The demand for new production of crude oil must come from the gasoline pumps.

Not the demand for new gasoline pumps come from the producer of crude oil.

L. V. Nicholas, Chicago, authority on petroleum marketing, brought this message to the session on economics of the National Petroleum Association, Cleveland, April 23.

The principal cause of the present ills of the industry, he said, lies in the fact its marketing and manufacturing facilities are the tools which crude oil producers, in a broad sense, use to crowd their production on the market regardless of economic consequences.

"Our chaotic and disorganized present is the price we must pay and will continue to pay until uneconomic overproduction of crude oil is changed to orderly balancing of supply with demand," stated Mr. Nicholas.

While heads of some of the oil companies individually recognize this situation, he stated, relief can only come when the industry as a whole finds a means of preventing the production and throwing on the market of cheap crude from new fields regardless of price and market demand.

He went on to point out conditions the marketing branch of the industry may enjoy when this new period is reached, among them:

Consideration of crude supply as a raw material, in no demand except through refining products that are in demand, with its value largely created by the science of manufacture and distribution.

Withdrawal of oil companies from marketing areas where they are not on a competitive equality.

Expansion programs carefully thought out and financed out of profits.

At the same session, E. B. Swanson, chief petroleum economist, Bureau of Mines, chairman of the Committee on Petroleum Economics of the Federal Oil Conservation Board, discussed the committe's recent report on crude oil and gasoline supply and demand for six months, which was first presented at the meeting of the refining division of the American Petroleum Institute in St. Louis last week.

H. J. Struth, petroleum economist, Houston, discussed potential crude production as a factor in the crude and refined oil market structure and urged a check of potentials of all flush fields in the country with a view to revision of present estimates.

J. Elmer Thomas, consulting geologist, summarized the value of conservation measures now being employed in an address entitled, "A Confession of Faith." He said he believed the industry is moving steadily forward in its efforts to balance supply of crude oil with demand.

The Present and Future of Petroleum Marketing

By L. V. Nicholas

OUR marketing present is the chaotic culmination of over a decade of blind and wilful disregard of sound economics and good business practice.

Our marketing present reflects the grotesque, over-emphasized methods and machinery of an industry driven, not by the urge to meet demand, but by the necessity for individual units of the industry to find outlets for accumulated stocks whose mounting pressure was the result of not only past, but current and persistent overproduction.

Our marketing present is a crowded graveyard of dead methods and practices that we still choose to call alive, although the odors of mortification and decay are a stench in the nostrils of all of us.

Our marketing present, at best, is a good place to be "from" and not "at."

In our marketing present, the science of administration and of operation, the genius and brilliance of leadship, is neutralized and becomes wasted effort in the face of a type of competition that has no particular need to consider any other cost except the figure established by dumb and presumably blind luck in crude oil production.

In any discussion of marketing, it is impossible to intelligently overlook the fact that approximately only 30 per cent of our facilities are economically justified in order to meet demand and the other 70 per cent the result of over-supply fighting for a market.

From the time of Adam Smith up until now, all sound economists have recognized over-supply as the irresistible force that will eventually demolish any and all attempts at price control even though the attempts are made in the interests of public

good and entirely free from selfish and ulterior considerations.

It is utter folly to blame the current world-wide depression for the situation in which we in the oil industry find ourselves.

As a matter of fact, it is my judgment—and I know it to be the judgment of others—that the oil industry, regardless of general prosperity or depression, general inflation or general deflation, had, for years past, been headed for the rocks of complete demoralization from which nothing but a miracle of the first order could save it.

Marketing today, in a most graphic manner, indicates its complete surrender to and control by the forces of over-production of crude oil.

After having slowly and laboriously partially climbed out from in under the depression and demoralization resulting from various lucky crude oil strikes in West Texas and New Mexico, the overwhelming flood of raw material from Oklahoma City, the new and deeper sands in California, we are confronted with the immediate and pressing problem presented by the East Texas development; where a rank wildcatter, in an entirely unsuspected area, opens the flood-gates of a field so prolific and so easily accessible that even the California crude price structure, as low as it is, may be threatened by reverse routing of tankers laden with Texas crude oil to be refined in the state of California and, if you do not believe this, get out your Atlas, your tanker chart schedules and figure it out for yourselves.

Until our methods of producing and supplying crude oil are put on a plane at least equivalent to that of agriculture (whose acknowledged bad methods and practices we deride and hold in contempt) there can and will be no basic improvement in either the present or the future of marketing methods in the oil industry.

Today, we are facing a peak consuming season pitched on a price structure determined, not by either a fair value for the service performed or anything approximating a commensurate return on invested capital, but wholly and solely by developments in a new producing area in East Texas.

Blind, foolish, undiscriminating luck is wiping out invested capital and making sound organization and intelligent administration in marketing look foolish as well as sick while, at the same time, wasting with wanton disregard the essential crude oil resources of a great nation.

I am not unmindful of the fact, in the subject assigned me,

L. V. Nicholas

I am presumed to hold myself within the bounds of what could reasonably be termed "the problem of marketing."

Marketing in the oil business is absolutely nothing more nor less than the sharply defined shadow of our producing situation for, bear in mind,—in connection with the statement previously made that only 30 per cent of our present marketing facilities are required to adequately meet increased demand, the other 70 per cent to provide outlets for over-production—it is also a fact that approximately 90 per cent of the units engaged at the present time in refining petroleum products are directly the result of over-production in crude oil attempting to develop its own outlets regardless of their economic justification.

In other words, an average of 9 out of every 10 companies engaged in the refining of petroleum products can be fairly said to have come into existence as the result of the crude producers' need to find an outlet for his raw material and not because there existed any consumer demand for an increased supply of the finished product.

This increased duplication of facilities has lead the industry deeper into the mire and involved the individual units in progressively less profitable operations to that point where industrial bankruptcy is more than a possibility—it is a probability if continued.

What would you think of a community which gravely and seriously discussed methods of treatment for constantly recurring epidemics of typhoid fever while persisting in the use of a system of water supply that was know to be the cause?

In the oil industry, our marketing and manufacturing facilities are in the broadest sense merely the tools on which our various types of crude oil producers depend to crowd their production on to the market regardless of consequences.

Our advertising and our various forms of solicitation are piratical in spirit and in purpose —any and all methods are used from direct mistatements to the finer forms of innuendo in our fight to take the business by any means—fair or foul— from a competitor.

It is the law of the Jungle.

During the past several years, I have been privileged to sit in on many confidential discussions of our marketing situation and know that practically the unanimous private opinion of our marketing executives is that, against their judgment and with full knowledge of where it would ultimately lead, they have been forced into marketing practices that were unsound to the point of being highly dangerous.

No system of marketing can be built up that is either profitable or creditable along these lines and, with all due respect to the undoubted genius and ability of the men at the head of the various refining and marketing units, their task of developing profits or orderly marketing methods is foredoomed to failure as long as the system continues.

Past large earnings and sat-

CAPTAIN KIDD *was not a Pirate*

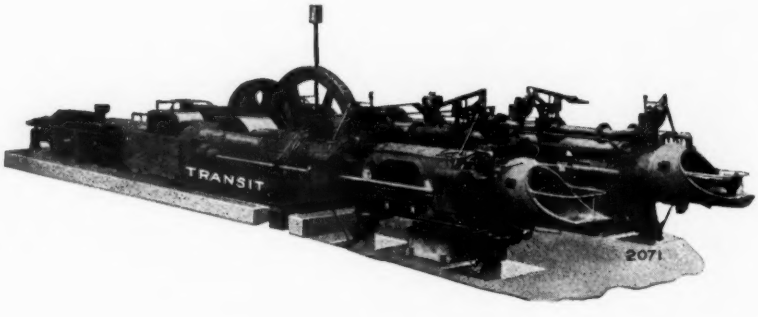
yet was hanged because of a misinformed public!

Waste refinery gases were once condemned as impractical for gas engine fuel. There still remains considerable scepticism.

If you have the least doubt, we will be glad to give you detailed information and refer you to actual operating installations.

With a TRANSIT Gas Engine driven Hot Oil Pump you have the utmost in reliability for the most particular of all services— that of pumping hot oil.

TRANSIT
GAS ENGINE DRIVEN
HOT OIL PUMP.
OPERATING ON
WASTE REFINERY GASES



Los Angeles
Tulsa
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NATIONAL TRANSIT
PUMP & MACHINE CO.
OIL CITY, PA.

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Pittsburgh

TULSA and MID-CONTINENT FIELD
Frick-Reid Supply Corporation

LOS ANGELES
Republic Supply Company of California

BEAUMONT, TEXAS
E. L. Wilson Hardware Company

NEW ORLEANS, LA.
Woodward, Wight & Co.

PHOENIX, ARIZ.
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SALT LAKE CITY, UTAH
F. C. Richmond Machinery Co.

ST. LOUIS, MO.
Reeves & Skinner Machinery Co.

isfactory dividend records of many companies in the oil business cannot be pointed to as in any way evidencing the fact that our general policy has not been so reprehensible after all.

What really counts is, can we properly say we represent an industry with 12-odd billion dollars invested or is it more proper to say we represent an industry in which 12-odd billion dollars have been sunk and, if "sunk" more closely approximates the proper word instead of "invested," then the past earnings records are going to be of little, if any, satisfaction in considering where we are at.

IF THE total invested capital in the oil business from the Drake well to now could be assembled in one grand total—which we would term the "debit account" of the oil industry—and all dividends and profits actually paid out in cash during the same period of time should be assembled in what we would term the "credit account" and to that should be added the net worth of the oil industry as it stands today, giving proper reflection to shattered inventory and producing property values, I doubt very much if it could be shown the industry had broken even over the period named.

If this rather startling statement even approximates the facts— and I believe it does—then it would appear what we have built with one hand has been destroyed by the other.

Our chaotic and disorganized present is the price we must pay and will continue to pay until uneconomic over-production of crude oil is changed to orderly balancing of supply with demand.

H. F. Sinclair, in his annual report to his stockholders, makes the statement that "the hope that proration would stabilize prices has proved to be an illusion," and he adds, "In 14-months elapsing since January, 1930, the price of crude oil in the Mid-Continent area has been driven steadily downward showing a cut of 63 per cent." Please take it as my personal observation that the 63 per cent figure named by Mr. Sinclair is, in all probability, not yet the bottom.

Mr. Sinclair further adds "until these problems are faced and these conditions overcome by the industry as a whole, there seems to be no prospect of improved earnings. No one company can cure these conditions nor can any one company escape from consequences that are common to all."

A company that cannot provide itself with its proportionate share of cheap crude is at the competitive mercy of the company who can and does and the reduction in crude oil prices, which Mr. Sinclair refers to as taking place in spite of proration, simply reflects the imperative necessity for the companies who do not produce their own cheap crude to at least purchase their requirements at a price that, in some measure, equalizes the advantage enjoyed by those who do.

Without some form of orderly production of crude oil that makes it broadly available to the entire industry on a price basis that will protect settled production and conserve our crude oil resources, what future is there for the marketing and manufacturing divisions of the oil industry?

The past, as well as the immediate present, conclusively proves they must not continue mere pawns in the battle between various degrees of luck in the producing end of the business.

A short time ago, the vice president in charge of marketing for one of our major companies told me that, during the past 15 years, never once had his department been consulted as to the probable quantity of gasoline and other petroleum products they could profitably market over the coming year.

Quite to the contrary, he said each year he was called into a conference in which it was stated, "Our production and manufacturing schedules indicate you must find a market for so much finished material during the coming year and we shall depend upon you to do it." For him these were orders and, for practically all other sales managers in the oil business, identical methods applied and apply today.

Is it any wonder our present marketing situation finds the highways and byways of the country lined with service stations and other marketing facilities vastly in excess of what we will probably ever need based on any reasonable forecast of increased demand?

For the immediate present, petroleum marketing is a mess but the factor that lends encouragement and genuine hope is that we are all wide awake to the situation and rapidly organizing to meet the future in an entirely different spirit and on an altogether new basis.

In the future, producing and refining must be subordinate to marketing. They must recognize that primarily they are dependent on marketing.

The crude producing branch of the industry has been unruly, misbehaved, greedy, intemperate and selfish and yet, for some unknown reason up to now, we have all conceived it as the "fair-haired boy" and treated it as such. We must take off our rosy glasses and see it as it is.

Crude oil is simply raw material and in practically no demand except as the science of refining breaks it up into products that are in demand and the facilities of marketing place those products in contact with that demand.

It is in about the same relation to gasoline, lubricating oil and other finished products as clay-mud is to the bricks in an office building, the china on your dining-room table, or the beautiful example of the potter's art on your mantle-piece.

Crude oil's value is created for it by the science and the art of manufacture and distribution and it is about time for the creators of its value to control what they create rather than be controlled by it.

VAIN regrets that the idea of Henry L. Doherty for the "unit operation of pools," submitted to the industry practically 10 years ago was not accepted and adopted then as it should have been, are a waste of time.

The fact remains, the Doherty plan is just as sound today as it ever was and the need for the industry to get back of this plan or its equivalent now is even greater and more imperative.

There is too much science in the administration of business

today and too much at stake in a material way, as well as in terms of national security, to justify lost time in working out of our present dilemma by the trial-and-error method.

Billions of dollars of invested capital, the prosperity of an industry and the possible safety and well-being of a nation are at stake.

"A plan" must be thoughtfully worked out by the best minds in the industry and with full consultation with sound economists and business executives outside of the industry.

The need for "A plan" is industrially sound and unquestioned; it is also a challenge. It is time for the sincere and able men within the industry to meet both the need and the challenge.

All plans seem to me to tend toward the establishment of some type of operation or method that will completely reverse the position crude oil has heretofore held in the estimation of the industry.

Up until now the crude oil producer has dominated us to his own as well as our own camplete undoing. He has grown to believe that it was his God given right to bring in *new* production without regard to the demand for it and that it was up to the rest of the industry to find a profitable place for him to dispose of that production, regardless of the economics or the common sense of the situation.

I know of no industry that has been able to make a success of producing first and then looking around to find a market afterwards. Quite to the contrary successful business finds or creates a demand and then produces to meet that demand.

THE oil industry must reverse its thinking and the demand for new production of crude oil must come from the gasoline pumps and not the demand for new gasoline pumps come from the producer of crude oil.

In the matter of legislation it seems to me about all the oil industry needs is laws that will give the same property rights to crude oil as pertain to other minerals. The present laws as applied to production of crude not only legalize theft but promote it, dignify it, and put a high premium on it.

As I see the future, petroleum marketing will become a well-recognized form of semi-public service—not free service that is designed to disguise and make palatable a faulty price structure, but service that is organized to meet broad public requirements on the lowest possible margin of profit commensurate with fair and adequate return on invested capital.

We all realize that, by closing up at least 50 per cent of our present marketing outlets, costs could be reduced materially, probably as much as 3 cents to 4 cents per gallon, with no impairment of service; in fact, it probably would be improved.

Getting down to "brass tacks"—the future course of petroleum marketing hangs in the balance.

IF WISE leadership and constructive counsel prevail, the present narrow spread between tank car price and the retail price to the consumer at service stations will be maintained and the battle between sound economics and wise public policy on one side, and the forces of industrial irresponsibility, evasion, opportunism and compromise on the other side, will be fought through to a final and definite finish.

The longer we delay squarely meeting the issue, the heavier the price we will inevitably pay.

It is my belief the battle has now begun and that it is simply going to be too bad for those who have ignored and disregarded the storm signals and kidded themselves into believing that, while sound economics and the theory of the "survival of the fit" might apply to others, it did not apply to them.

If we are now in the beginning of the final struggle in which only the fit can hope to survive, then it is only logical to assume that by far the majority of the oil companies whose stocks have had more or less spectacular careers on the curb and the big exchange are going to be wiped out either through the medium of consolidations and mergers or receivership. Consequently, while the speculative hopes of many an investor are going to be shattered and the pride of many a promoter who had come to consider himself an industrial "Poo-Bah" is going to be humbled, the industry, as a whole, will be very much better off and the public will be better served.

I EXPECT to see those companies who definitely plan or hope to survive this period of economic readjustment forced to map out a plan for themselves in matters affecting broad industrial problems, and I expect to see these same companies go through with their plans with or without its being endorsed or accepted by the opportunists and obstructionists to whom industrial sanity and public well-being mean personal loss.

The group who will do these things will be made up of men whose interests are sincere and constructively industrial and who consider their stockholders co-partners and associates.

With the public out of all except seasoned oil stocks—and not very strong for even those—and a retail price structure that is rapidly getting down to the proper basis and is no longer a "protective umbrella" to try to keep everybody happy regardless, many companies will have to consider withdrawing from areas where they are not on a competitive equality; in other words, to quote one of my friends who is a deep student of this subject:

"One must either legitimately belong in the territory where they are attempting to operate, arrange to belong, or get out."

Expansion programs will be fewer and more carefully thought out and will very largely be financed out of profits plowed back into the business by companies of much greater size than any we have before known.

The operations of these companies will be better stabilized because a gullible public will have learned that the oil business is not a deliriously profitable gamble and will no longer finance new promotions that only demoralize legitimate busi-

ness and waste funds entrusted to their keeping.

It is my guess that, within the next five year period, the oil industry will be made up of not over six, and possibly only four, major units with a number of strategically located, well organized, small companies, but the oil business will be business and a safe place to invest your capital with as sure a return as can reasonably be expected in any legitimate line of business.

It seems needless and useless to point out that the personnel of all companies is going to be overhauled and the non-producers ruthlessly weeded out.

Big company operations are no longer going to be Christmas trees for those whose only claim is length of time on the job or friendship.

Before closing, let me make one observation in connection with our gasoline and lubricating oil price structure:

No reduction of price within the legitimate range of possibility will perceptibly increase the consumption of either gasoline or lubricating oil. Our consumption curves over long periods and during wide fluctuations in price have demonstrated this conclusively.

But—it is my opinion that only through reductions in price can we hope to develop a clean, healthy marketing situation or bring about reforms in our producing methods.

Sound reductions in price will ultimately mean more satisfactory net profits and, viewing gasoline and lubricating oil as essential necessities, that must and will be purchased in uniform quantities practically regardless of price fluctuations, it is logical to assume that sound economics in operating, permitting legitimate reductions in price will save the public large sums of money that will go to satisfy new wants and bring about the promotion and development of new lines of business that will increase employment and indirectly benefit and improve our own position.

I look to see marketing take on a new aspect in the future. Having paid a gloriously high price for a liberal education in "what not to do" and "how not to do it," the oil industry has genuine prosperity ahead of it, *provided* and *if*.

Method of Drafting Federal Specifications Explained

DR. H. C. DICKINSON, chief of the heat and power division of the U. S. Bureau of Standards, in an informal talk before the National Petroleum Association explained at length the basic reasons for the practice of the government in buying petroleum and other products on specifications, and some of the difficulties in developing specifications which will enable the government to obtain the quality of products it needs for its use.

He observed that the federal purchaser ordinarily did not obtain the best of any commodity on purchase, but in most cases the poorest quality which would meet the specification was supplied. The government must accept the lowest bid on any product desired, which meets the specifications; in the nature of the transaction, the specifications must be such that they determine the minimum quality permissible, and personal judgment is eliminated.

Dr. Dickinson outlined the process of developing specifications, through the stages of the initial request by a federal department or agency for a specification, a request directed to the Federal Specifications Board, organized in 1921 for this purpose. This board has upward of 70 technical committees, composed of representatives of different departments, each charged with maintaining the specifications of certain products.

A part of the personnel of each committee at least is made up of technical men, chemists, and engineers experienced in the line handled by the group, who of necessity do a great deal of the investigational work of the committee, co-operative research, and contact with the industry represented.

Tentative specifications are prepared, often in collaboration with advisory boards selected from the industry. These tentative specifications are circulated within the industry involved, criticisms are presented, studied; changes indicated are frequently incorporated in the specifications, and the final draft is approved by the committee and by the board and becomes mandatory after a stated period. He stated that it required practically six months for a finished specification to be adopted and become effective.

The speaker also called attention to the discrepancy between a purchase specification, such as used by the government, for materials used by the body making it, and a protective specification made legal to prevent the foisting of inferior products on the public purchaser. He stated that in most cases the one would not serve well for the other purpose, and should not be used for any purpose other than that for which it was originally designed.

On account of the illness of Dr. Earl Bartholomew, of the Ethyl Gasoline Corp., Mr. Hawley, of the same company, presented his discussion of the progress recently made in producing a standard knock test. Details of the test are practically standardized, with the exception of minor points in the method of operation, which are expected to be settled shortly.

The author stated that that Standard Development Co. has prepared curves showing the amounts of ethyl fluid to be blended with the two secondary reference fuels prepared by the same company, to produce fuels of any desired knock rating between about 45 octane number and approximately 85. These curves are obtainable from the company at 26 Broadway, New York.

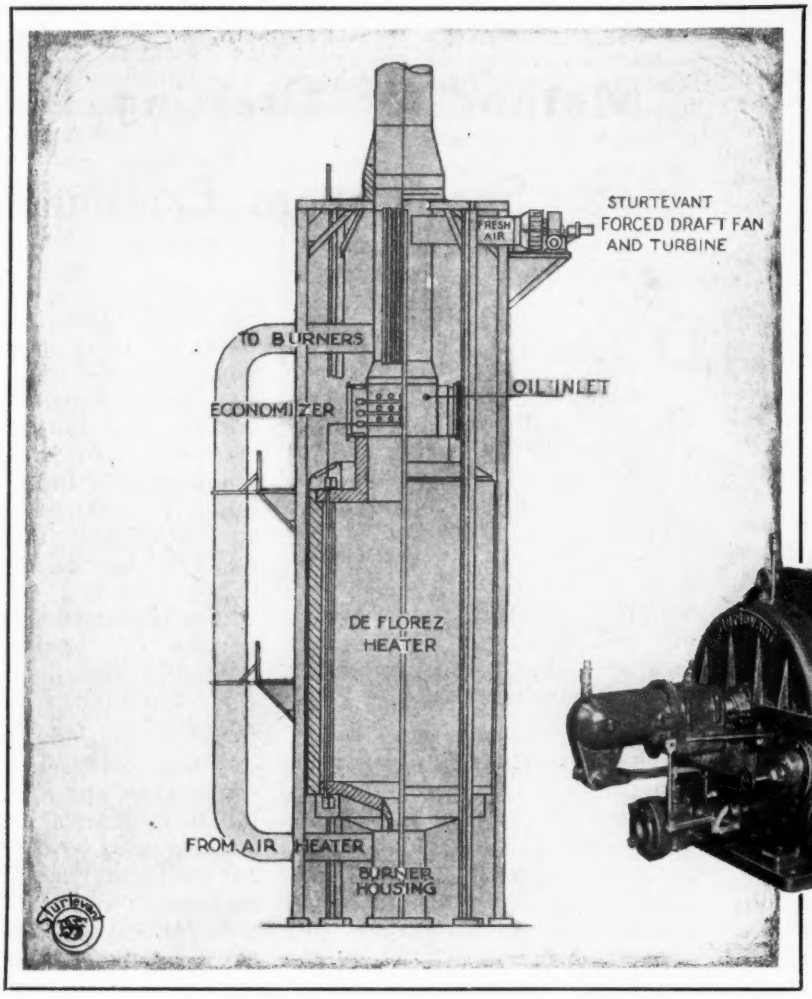
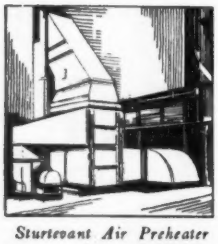
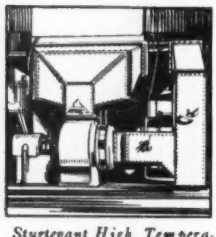


Diagram of a DeFlorez Heater, built by the M. M. Kellogg Co.

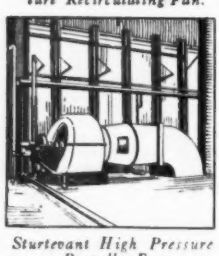
STURTEVANT *high pressure propeller fans for* DEFLOREZ HEATERS



Sturtevant Air Preheater



Sturtevant High Temperature Recirculating Fan.



Sturtevant High Pressure Propeller Fan

This Sturtevant Fan is used for forced draft to oil and gas burners. It is designed primarily for direct-connection to various types of Sturtevant High-Speed Turbines and operates at rim speeds of 24,000 to 25,000 f. p. m. These high speeds make possible exceptionally low water rates for the turbines and high pressures for the fans.

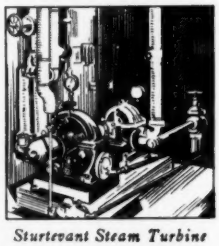
The fan wheel, of high-tensile cast aluminum is mounted on the extended turbine shaft. As shown in the diagram above, the fan and turbine may be located directly in front of the air-opening to the heater. Long connecting duct work is thereby eliminated. The equipment is rugged, yet compact, and fills a distinct need where space is at a premium.

Large numbers of Sturtevant High Pressure Propeller Fans, driven by Sturtevant Steam Turbines, are used on DeFlorez Heaters operated by the Gulf Refining Company and the Texas Company, and have proved highly satisfactory.

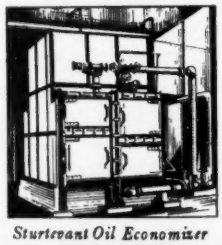
For detailed data on this, and other Sturtevant Refinery equipment write the Sturtevant office near you.

B. F. STURTEVANT CO.

Main Offices: HYDE PARK, BOSTON, MASS.—CHICAGO, ILL., 410 No. Michigan Ave.—SAN FRANCISCO, CAL., 681 Market St. *Branch Offices in Principal Cities.* Canadian Offices at: Toronto, Montreal and Galt. Canadian Representatives: Kipp Kelly, Ltd., Winnipeg. Agents in Principal Foreign Countries.



Sturtevant Steam Turbine



Sturtevant Oil Economizer

Sturtevant Draft Fan for boiler-house use

Sturtevant

REG. U.S. PAT. OFF.

OIL REFINERY EQUIPMENT

Railroad Official Denies Carrier Hostility Toward Pipelines

CLEVELAND, April 24

RELATIONS between the railroads and the petroleum industry may be more harmonious than was believed a few months ago. This was indicated at the session of the National Petroleum Association's spring meeting devoted specifically to transportation problems.

The meeting was scheduled as a three-cornered debate, with Elisha Lee, vice president of the Pennsylvania Railroad, to represent the railroads; Willis Crane, N. P. A. traffic attorney, to speak for the oil industry; and John E. Walker, taxation specialist, to discuss the question of whether automobiles and trucks are paying a fair share of road costs.

When the three addresses had been delivered it was apparent that the railroads are not as "hard boiled" as the "Declaration of Policy" of the Association of Railway Executives issued last November had indicated.

Mr. Lee declared that the declaration's recommendation that pipelines be subject to the commodity clause was not intended as a hostile or unfriendly gesture. On the contrary the executives were covering all other agencies of transport and felt that if they failed to include pipelines they could not fail to invite criticism.

No legislation hostile to the pipelines is being prepared by the railroads, Mr. Lee said. "The roads have a perfectly open mind, and are certainly desirous of doing nothing unjust to any interest, or against the public welfare.

"It is at least a possibility that the railroads may feel a strong moral obligation to enter the (pipeline) field for the protection of refineries located on their lines.

"We on the railroads have no desire or intention to stand in the way of efficient and economic use of pipelines, but we do seriously question whether it is not at least possible that some recent projects may be unnecessary. More than once the first notice the railroads received of a new pipeline was request for permission to cross a right-of-way. In view of the capacity of our railroads and the special equipment available, does it not seem that, before building so expensive a new facility, the wise course would be to make a practice of consulting the railroads first, to determine whether they could furnish the service required in a satisfactory manner? As a matter of fact, one company has done so recently.

"PARAPHRASING some recent remarks of our president, General Atterbury, where the interests of two industries seem to clash, it appears to us the only way to arrive at fair and sound conclusions is by sitting down and talking matters over. We do so in our own railroad family and try to use this method as far as possible in our relationship with other industries. I have no doubt it can be a great help in harmonizing the relations of the different forms of transport with each other.

"It may be of interest to you to know, as a matter of fact, that conferences have been arranged between leaders in the oil industry and some of the executives of leading railroads to talk over with them the bearing of pipelines upon the transportation of oil and gasoline, with the view to working out a program helpful and advantageous to both sides.

"Arrangements are also being made for a series of conferences with leading truck manufacturers so that the officers of the railroads may discuss with them, on grounds of mutual interest, the problems of highway transport as related to the rail carriers.

"I think that the key to the solution of all of these problems will be found through fair and honest efforts of all concerned to reach conclusions by frank and free discussion. Certainly I can think of no other means of approach more likely to appeal to the public as fair and intelligent, or better calculated to enlist the sympathetic cooperation of governmental authority in this very necessary and important work of harmonizing our agencies of transport and their uses.

"I should like to refer once more to the 'Declaration of Policy' of the Association of Railway Executives. In general, it was well received and interpreted by press and public for what it was meant to be; namely, a plea for fair play and equal treatment. Very regrettably, however, there was a tendency in some quarters to go beyond its terms and read into it other meanings which I am sure were not intended, and do not represent the attitude of the railroads.

"A PARTICULARLY unhappy example was the currency given to the intimation that the railroads, having been ham-strung themselves for many years, were now seeking to ham-string and cripple their competitors. I can authoritatively say that that is not the attitude of the Pennsylvania Railroad management, nor is it that of the many officers of other railroads whom I know, and with whose views I am familiar."

Mr. Lee described the work which the Pennsylvania is doing in trying to co-ordinate various forms of transportation. The company now is operating 49 truck routes, covering 1770 route miles daily, to replace the

local freight trains and on routes of light traffic.

It has established special service on less-than-carload shipments by providing containers that may be packed at store door, carted to a rail-head by truck and carried by flat car to destination and there unloaded again at the store door. This has been quite successful.

Lately the Pennsylvania has been studying trucking between Philadelphia and New York. It found that truck operators have a 30-cent per mile cost but that the railroad could carry detached truck bodies at half that cost and make a good profit. It is planning to ask permission to make special rates between the two cities.

In the passenger field the company has made extensive use of buses and invested substantially in the Greyhound lines. It was a pioneer in coordinating air and rail lines.

Mr. Lee made a special plea that the railroads be permitted to operate boats in intercoastal service and on inland waterways. The Panama Canal Act prohibits this and drove the Pennsylvania flag from the Great Lakes. The company recently invested in a steamship line operating between the United States and Europe indicating its desire to engage in water as well as land and air transport.

Progress in negotiations between the railroads and the oil industry on short-haul rates for petroleum products was reported by Mr. Crane in his address. He said that the industry has prepared a schedule of local rates which it honestly believes will prevent the growth of trucking gasoline and oil and bring back much of the traffic the railroads have lost to the tank truck.

This schedule was presented to the Central Freight Association lines at Chicago recently and approved, provided the Eastern Trunk Lines also agree. The trunk lines are considering the schedule also but have not announced a decision.

All authorities have agreed that competition is centered on hauls up to 250 miles with the peak at about 100 miles. The suggested schedule of all rates starts at about 4 cents per hundred for a 20-mile haul and graduates up to about 13 cents for a 100-mile haul.

The address by John E. Walker, former special assistant on taxation to the U. S. Secretary of the Treasury, consisted of an analysis of motor vehicle taxes and highway expenditures. He showed that some early claims made by the railroads that they were paying a large share of the cost of building roads for their competitors, were unfounded.

In 1929 state highway income totaled $887,616,626, Mr. Walker showed. Of this amount $565,351,150 or 63.7 per cent came from special motor vehicle taxes, $161,229,297 from bonds; state tax, appropriations and miscellaneous $83,463,488 and federal aid $77,572,691.

Cracking Naphtha at High Pressures Brings Octane Number Above 70

By E. B. McConnell*

(Presented before National Petroleum Association, Cleveland, April 23-24)

THE highly competitive character of petroleum marketing in the past few years as a result of overproduction has influenced many companies to place gasoline upon a quality basis rather than a price basis. Through advertising, the attention of the public has been called, among other things, to volatility, mileage and anti-knock, with especial emphasis on the last. The average motorist now expects and demands that regular priced gasoline have a good anti-knock rating.

Accordingly, the manufacturing departments have been forced to adjust refinery operations to meet this demand. Cracking processes operating on gas and fuel oil were already turning out large quantities of high anti-knock distillate, but in most cases this represented only about 50 per cent of the total gasoline produced.

Many refineries are fortunate enough to have a geographical location that enables them to run selected crudes, the gasoline from which has a good natural anti-knock value. However, most of us are not in this position. The crude naphtha from Mid-Continent and more especially from Pennsylvania and Michigan crudes does not have sufficient anti-knock value to give satisfactory performance in the present day motor.

The refiner then was confronted with the problem of converting this product into marketable gasoline. He turned naturally to cracking, and as the literature shows, considerable work has been done during the past year on this operation. Therefore, it was thought that refiners with poor anti-knock crude naphtha would be interested in results that have been obtained by cracking heavy crude naphtha from Mid-Continent at high pressures.

The equipment used for cracking the heavy naphtha was a Tube and Tank unit operating at 1000 pounds per square inch on the reaction

*Standard Oil Co. of Ohio.

chamber. The unit consists essentially of a furnace, vertical reaction chamber, tar separator, and two conventional 10-plate bubble towers in series. Fresh charge passes through suitable heat exchangers to an accumulator where it mixes with hot cycle stock from the bubble towers. The separator, towers, and accumulator are held at 100 pounds. Hot feed pumps take suction on the accumulator and discharge through intercondensers, (located in the vapor line between the tar separator and primary tower), to the furnace.

There was a possibility that the accumulator temperature would run so high that the light ends of the naphtha would be vaporized, but as a matter of fact, the per cent fresh in the total feed was so high that the accumulator temperature ran sufficiently low to prevent this from occurring. The operating conditions were as follows:

Table 1

Operating Conditions, Cracking Heavy Crude Naphtha

Temperatures

Accumulator	370 F.
Coil Inlet	575 F.
Coil outlet	925 F.
Top Reaction Chamber	880 F.

Pressures

Reaction Chamber	1000 lbs.
Bubble Towers	100 lbs.

Running Rates

	G.P.H.
Total Feed to Coil	11,700
Fresh Feed to Accumulator	5,800
Distillate Produced	4,750

Table 2

Properties of Charging Stock, and Yields

	Fresh Feed	Distillate	Tar
Gravity, A.P.I.	51.0	55.5	10.0
I. B. P., °F.	145	93	.....
% Recovered @ 158F.	.....	9.0	.....
% Recovered @ 212F.	5.0	22.0	.....
% Recovered @ 284F.	23.0	50.0	.....
% Recovered @ 374F.	92.0	90.0	.....
% Recovered @ 392F.	96.0	93.0	.....
% Recovered @ 410F.	98.0	.....	.....
F. B. P.	460	400	.....
Octane Number	.....	70	.....
Color	.....	20	.....

Yields on Fresh Charge

Distillate from unit	82.0%
Absorption Plant Gasoline	2.0
Total Distillate	84.0
Tar	5.0
Gas	11.0

The heavy naphtha was obtained by making two poorly fractionated cuts at the crude stills. The light cut can be ethylized or blended with the cracked distillate. The heavy cut represents about 15 per cent on the crude oil. The cracked distillate is a finished gasoline after lye washing.

As the heavy naphtha might possibly be marketed if blended with casinghead, blends were made to bring both the cracked distillate and the heavy naphtha up to 27 per cent recovered at 212 F.

Table 3

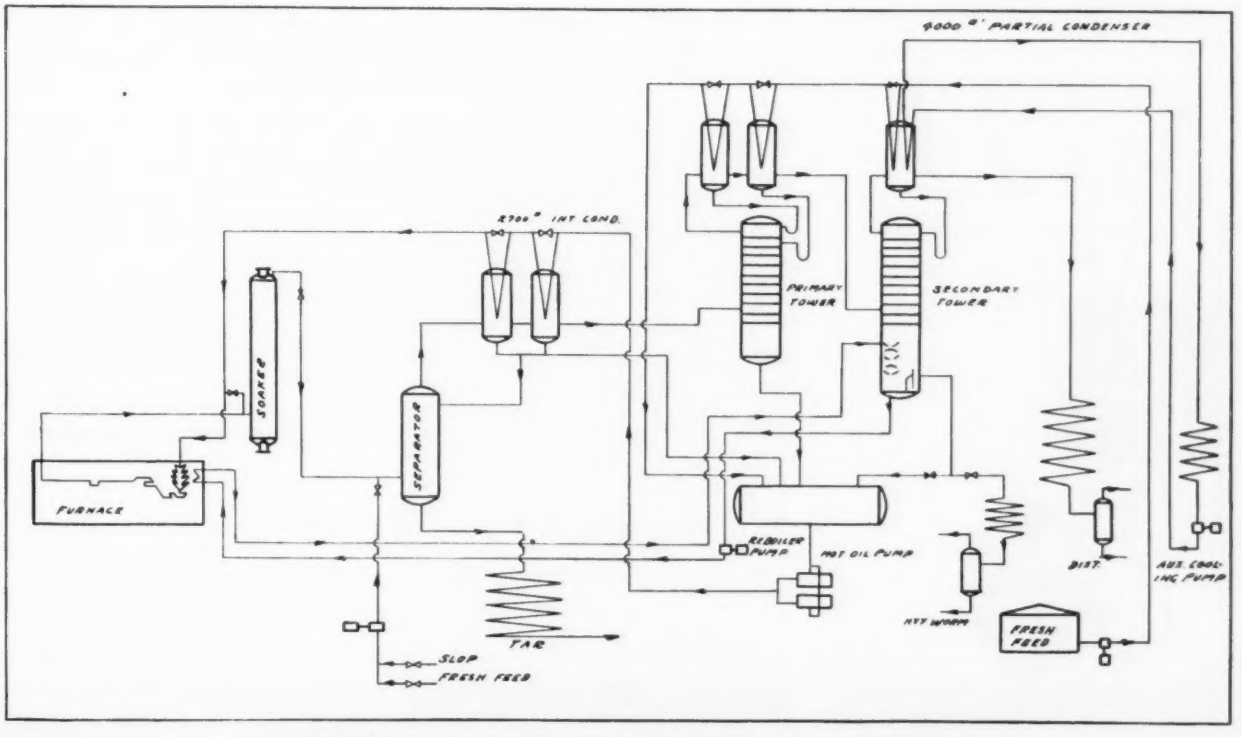
Distillation Data on Blended Gasolines

	Heavy Naphtha Plus 31.8% Casinghead	Distillate Plus 13.8% Casinghead
I.B.P., °F.	94	96
% 212 F.	27	27
284 F.	43	54
F.B.P., °F.	432	400
Octane Number	55	71

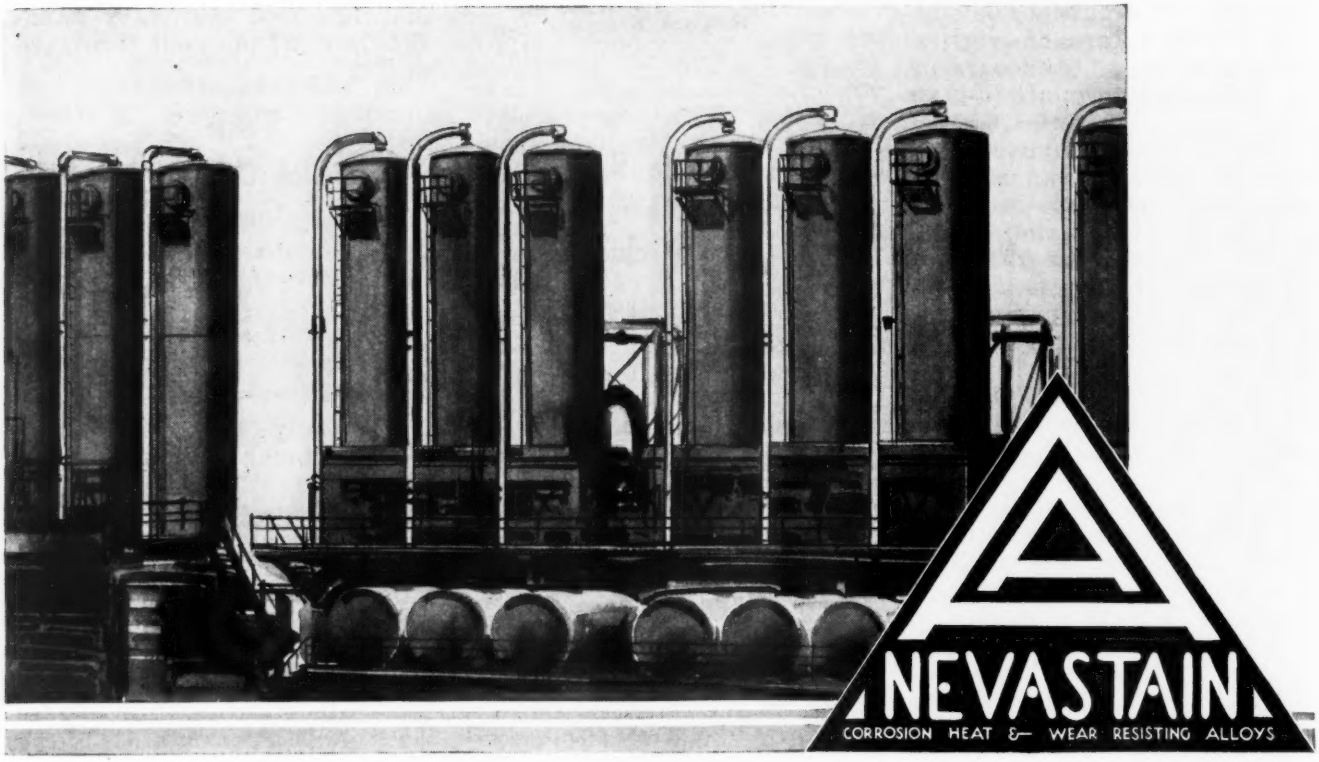
Not only does the heavy naphtha blend have a very low knock rating, but it is also low at the 284 point. It obviously is not marketable as a high quality fuel. On the other hand, the distillate blend is satisfactory in every respect.

The big improvement in knock rating naturally cannot be obtained for nothing. There is incurred a degradation of the charging stock and a processing expense. However, the total cost is not excessive and the operation is perfectly feasible from an economic point of view, especially if the crude naphtha cannot be sold at any price.

The results given in this paper are not merely experimental, as the operation has been carried on currently for almost a year.



Flow chart of cracking plant processing heavy naphthas



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The Mid-Continent Skyline

By Lawrence E. Smith

WALKER S. CLUTE, who recently came to Tulsa as district engineer for the United States Geological Survey, conservation branch, is widely known in the oil producing states and has done considerable geological work in South America. A native of Los Angeles, Mr. Clute was graduated from Stanford in 1915. Prior to this he had worked for the Union Oil Co. of California. After finishing school he was appointed deputy inspector of oil products for the city of Los Angeles.

His work consisted of testing of gasoline, lubricating oils, asphalts and kerosine.

From this position he went with the Smith-Emery Co. in 1916 and was engaged in development of potash deposits in western Nebraska. Following this came a brief period of service as petroleum engineer at Montebello with the Pan-American and California Petroleum Corp. interests, which was interrupted by the war.

Mr. Clute entered the air service, became a pilot. After leaving the service he was associated with Harry R. Johnson in independent geological work until 1920 when he went with the income tax unit of the Treasury department as valuation engineer. He assisted in compiling the Manual for the Oil & Gas Industry, issued by that department.

From 1922 to 1929 Mr. Clute was engaged in consulting work as petroleum geologist and appraiser, with offices in Los Angeles. During this time he was engaged by nearly all of the major companies operating in California.

Then followed a a connection with the Atlantic-Pacific Oil Co. (Hammond interests) in conducting exploration and development in Wyoming and Montana. From there he went to the U. S. G. S., geological section, and was later transferred to the conservation branch which supervises operations on leased public lands.

* * *

Died: In Seattle, Hayes W. Young, research engineer for the Midwest Refining Co. in the Salt Creek field. He was 57 years old and had been with the Midwest since the major development of Salt Creek was started. He contributed to technical literature several articles on problems connected with natural gas and natural gasoline. He was unmarried.

* * *

Gen. Baird H. Markham, assistant to the president of the Continental Oil Co. and comptroller of the company, has resigned as commander of the 45th division, national guard.

Walker S. Clute

His request to be transferred to the national guard reserve was granted.

* * *

Died: In Oklahoma City, Mrs. Charles F. Urschell, sister of the late T. B. Slick and wife of the present directing head of the T. B. Slick Estate properties.

* * *

It will be just as well to refrain from talking back to the new captain of Tulsa's traffic police. He is S. M. (Puny) Blevens, who gets his nickname because he is the opposite of that condition. A one-time oil scout, Capt. Blevens has for several years been a lease broker and participated in the financing of a few wildcats. He was famous in these parts some years ago when he played football for Kendall College.

* * *

The Arkansas producing division of the Pure Oil Co., effective April 1, became a district and is operated as part of the Southwestern Producing Division, of which Comar Plummer, Tulsa, is manager. R. Lane Grigsby, who has been manager of the Arkansas division, has resigned and Clyde R. Vinton was transferred from the Cushing district to be superintendent. L. L. Haines succeeded Mr. Vinton at Cushing and Carl Douglass was promoted to the superintendency of the Sapulpa district, succeeding Mr. Haines.

* * *

New officers of the North Texas chapter, Petroleum Safety Council, are C. L. Hightower, Texas Pacific Coal & Oil Co., president; C. B. Stults, Humble Oil & Refining Co., vice-president and C. W. Hillman, Southern Crude Oil Purchasing Co., secretary-treasurer.

Recommend Holding California Crude Output to 459,300 Bbls. Daily

By Jack N. Westsmith

N. P. N. STAFF WRITER

LOS ANGELES, April 24

WHILE awaiting the outcome of efforts of the newly organized Oil Producers Sales Agency to induce Independent California operators to join the co-operative marketing plan, various committees are busily engaged in perfecting a workable and equitable proration program to govern future development and production on the Pacific Coast.

Marginal wells present the greatest problem. Early in the present study it was proposed to exempt from proration all wells that produce less than 30 barrels per day. It was seen, however, that such wells were so numerous that more than one quarter of the state's allowable production of 500,000 barrels per day would be uncontrolled.

A later scheme provided that individual well production should be determined by depth on a straight line formula. A modification of this proposal is now being considered by the Committee of Five.

Presaging still further complications several large purchasing companies are reported to be offering premiums of 10 to 20 cents per barrel for the higher gravity oils. This and the efforts of producers to lower the gravity of their oil either through "boiling" or blending of high and low gravity oils so as to take advantage of the higher prices posted for crude of 20 gravity or less, is causing leaders in the California industry considerable unrest.

In a report made to the General Conservation Committee by the committee of eleven operators appointed to study the economics of the California situation, several important suggestions were made.

Developments that made it necessary to revise the recommendations of September last were outlined as due to inaccurate estimates as to the consumption of petroleum products during the remainder of 1930 and the first nine months of 1931.

It had been estimated last September that demand for gasoline and engine distillate from Sept. 1, 1930, to Feb. 28, 1931, would be 238,000 barrels per day. Actual daily consumption for the period was only 215,000 barrels.

A new estimate for the period from April 1 to Sept. 30, 1931, forecasts a consumption of 228,000 barrels daily. While the estimates of domestic consumption and Pacific and foreign exports are believed to be conservative, the 59,000 barrels daily allowed for intercoastal shipments is considered by the committee to be too liberal.

The committee pointed out that recent East Texas developments and other factors are almost certain to decrease California shipments through the Panama Canal. This decrease will materially affect the required daily production of crude on the West Coast.

Although one of the basic principles underlying previous reports was that the excessive stocks in the California district should be reduced to economic levels within a reasonable period, the committee pointed out that little had been accomplished in this direction. It gave the following table to illustrate:

	Refinable Crude (20° and above)	Gasoline (Inc. Eng. Dist. but not Nat. gasoline)	Fuel & Gas Oils (Inc. Heavy Crudes below 20°)
Stocks April 30, 1930	44,166,000	15,904,000	111,880,000
Stocks March 31, 1931 est.	40,774,000	16,000,000	105,000,000
Change	Dec. 3,392,000	Inc. 96,000	Dec. 6,880,000
Economic estimated stocks	32,000,000	9,421,000	69,000,000

To achieve a stable marketing situation the committee again recommended a determined effort to reduce the excess stocks. The committee suggested an allowable crude production of 459,300 barrels per day to allow the recommended cut in stocks.

If a downward revision of the estimated intercoastal gasoline shipments is necessary, as is indicated, a still further reduction in crude production would have to follow. As an example of this the committee reported that a decline of one-third in intercoastal shipments would allow a crude production of only 398,000 barrels per day. If such shipments are reduced by half or approximately 30,000 barrels per day, the necessary crude production would be only 368,500 barrels.

It was further estimated that other factors remaining constant a daily crude production held at its present allowable of 500,000 barrels would not only eliminate the possibility of reducing stocks of light refinable crude but inventories would increase at the estimated rate of 417,000 barrels per month.

The accompanying table was submitted as an estimate of the petroleum situation in California for the six months.

Estimated Petroleum Situation California District April 1 to Sept. 30, 1931 (Barrels Daily)

Gasoline Demand	
Domestic consumption	143,900
Pacific exports	15,200
Atlantic exports	10,100
Intercoastal shipments	59,300
Total demand	228.500
Gasoline Supply	
Natural gasoline used (net)	27,100
Production from cracking	42,100
Withdrawal from stocks	36,100
Production from crude	123,200
Total supply	228,500
Crude (20°API and above) Requirements	
Crude required to run to stills on basis of 28.42% yield	433,300
Pacific exports	12,700
Heavy crude transferred to fuel	40,100
Total requirements	486,100
Less withdrawal from stocks	26,800
Net crude production required	459,300

Stocks

	Gasoline Bbl.	(20° & Above) Crude-Bbl.
Estimated Apr. 30	16,000,000	40,989,000
Recommended withdrawals	6,579,000	4,877,600
Estimated Sept. 30	9,421,000	36,111,400
Estimated economic stocks	9,421,000*	32,000,000

*Excludes casinghead gasoline which was included in this item in former reports.

Supply Men Name Hosts For Annual Dance

TULSA, April 25.—Hosts are going to be present at the annual dance by the Natural Gasoline Supply Men's Association, given in connection with the convention of the Natural Gasoline Association at the Mayo hotel here May 20. They already have been named by A. J. Kerr, Pittsburgh Equitable Meter Co., chairman of the dance committee, and are:

George W. Probst, Clark Brothers Co.; W. D. Moorer, Moorlane Co.; R. T. Roberts, Goulds Pumps, Inc.; D. W. McKay, Cooper-Bessemer Co.; B. W. Vinson, Vinson-Canter Co.; W. D. Smith, Worthington Machinery Corp. of Oklahoma; and Paul Raigorodsky, Petroleum Engineering, Inc.

These hosts, according to Mr. Kerr, will see that "bashful partners will be introduced to each other so that they can make the maximum mileage on the dance floor."

Standard of California Organizes Refrigeration Company

LOS ANGELES, April 24

PACIFIC Coast oil companies, particularly the larger organizations, are turning their attention toward development of by-products incident to the production of crude oil and natural gasoline. An abundance of high-pressure gas in the Kettleman Hills field of the San Joaquin Valley has been largely responsible for enterprises projected to utilize the inherent energy of this natural resource.

Announcement was made by Standard of California, April 23, of the pending formation of the Pacific Frosted Foods Inc., organized for the commercial development of the Birdseye quick freezing patents in the Pacific West. The development is to be under the direction of the General Foods Corp. and the local Standard unit, which is interested because of its management control of the subsidiary Pacific Public Service Co. already intensively interested in refrigeration.

Standard of California will act primarily as a co-ordinating unit in making the Birdseye process available to the western perishable foods industry. The quick freezing patents cover processes for the packaging and preservation of foodstuffs by rapid refrigeration. Based on seven years of research work, General Foods Corp. through its subsidiary, Frosted Foods Inc., has been engaged for the past two years in experimental development of the patents on the Atlantic seaboard.

Relative to the process the following statement was made: "The method of quick-freezing involved in the agreement is the process developed by Clarence Birdseye, basic patents for which are held by Frosted Foods Inc. It is a system for instantaneous freezing, at temperatures of 50 degrees below zero, which permits preservation of perishable foods, including meat, seafoods, vegetables and fruits, for long periods of time without affecting the quality of freshness of the product.

"This process of quick-freezing has a number of unique features, including instantaneous freezing under pressure, which gives results superior to the ordinary methods of preserving food by freezing. A major feature of this method is that the ice crystals which are formed are so minute that there is no rupture of cells. Because of this the product retains all of its original flavor, food value, and texture.

"Industrially this expansion of the quick-freezing process should create new employment demands. Electric refrigeration and insulating material companies will be called upon to provide new equipment. Establishment of freezing plants to supply newly opened territories will represent a new industrial activity.

"Improved types of rail, truck and steamship transportation are anticipated. The development should be of particular benefit to the farmer, because of the stabilized sectional demands that will be created for meats, fruits and vegetables to supply the quick-freezing plants."

Rights to the basic Birdseye Quick Freezing patents will be held by Pacific Frosted Foods Corp. in the states of California, Oregon, Washington, New Mexico, Arizona, Colorado, Utah, Montana, Idaho, Nevada, Western Mexico, Alaska, and Hawaii.

Simultaneous with this announcement, Union Oil Co. of California has announced that it will produce a liquid gas. The new product, which will be marketed through jobbers and not to a retail trade, is to be manufactured as one product of a new stabilizing tower recently erected in the company's Los Angeles Basin refinery. Details of the marketing plan are to be announced soon.

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Sectional view, showing Jenkins solid wedge closing mechanism.

Sectional view, showing Jenkins Double Disc Parallel Seat closing mechanism.

Fig. 325, Jenkins Standard Iron Body Gate Valve, Screwed, with Solid Wedge, Inside Screw, Stationary Spindle.

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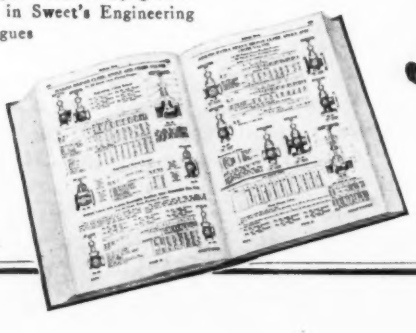

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Tariff Campaign to Be Waged With Vigor Until Meeting of Congress

By Lawrence E. Smith
N. P. N. STAFF WRITER

EFFORTS of the Independent Petroleum Association of America to obtain a tariff or restriction of imports will not be relaxed during the summer. A campaign will be conducted continuously from now until the meeting of Congress in December. It is realized that considerable opposition in the states that do not produce oil must be overcome.

This policy was decided upon by the association's directors at the second annual meeting April 24. Something over 200 members attended one or more of the sessions and there was every sign that the zeal displayed in the past has not abated because of the set-backs at the hands of Congress.

To further the program, the directors decided that work should be conducted through chambers of commerce and other civic bodies in all the oil producing states with the objective of "bringing to the minds of those in the industrial areas of the United States the necessity and importance of maintaining a vital, healthful condition in the oil industry and call direct attention to the necessity of protecting the oil industry as well as the other great industries of the United States."

Specifically, that means the directing of the attention of the manufacturers in the area which has opposed an oil tariff to the markets which they have in the oil producing states—of showing industrial New England and the Middle Atlantic states how their own interests are affected when the oil producing states are in distress because of cheap foreign oil.

The directors decided also to re-establish headquarters in Washington immediately. Russell B. Brown, who has been counsel and executive manager, dividing his time between the Tulsa headquarters and Washington, will go to Washington as association counsel. Dudley C. Monk, who has been treasurer of the association, was elected secretary and manager as well as treasurer, and will have charge of the Tulsa offices.

The directors adopted a budget for the next year and allocated to the several states represented their portions of the general fund to be raised.

Wirt Franklin, president of the company which bears his name, was re-elected president. Mr. Franklin took the lead in organization of the association in June, 1929, at Colorado Springs, when the interstate compact meeting was held on call of President Hoover. He was re-elected last year at the Fort Worth meeting.

HAROLD B. FELL, Ardmore, last year's executive vice-president, was elected assistant to the president, and Orville Bullington, Wichita Falls, became executive vice-president. The new executive committee is Paul S. Ache, president of the Reiter-Foster Oil Co.; James G. Cloud, chairman of the Sunray Oil Co. and George A. Dye, vice-president of the Wilcox Oil & Gas Co., all of Tulsa.

The state vice-presidents were, for the greater part, re-elected. They are: Arkansas, Joe Mahoney, El Dorado; California, J. R. Dorsey, Bakersfield; Colorado, Warwick Downing, succeeding Dr. A. W. Green, Denver; Illinois, William Bell, Robinson, succeeding Thomas Flynn; Kansas, A. D. Allison, Wichita; Kentucky, Paul G. Blazer, Ashland; Louisiana, W. Scott Heywood, Jennings; Montana, C. J. Dousman, Baker; New Mexico, Van S. Welch, Artesia; New York, J. Edward Jones, New York City; North Dakota, H. C. Schumacher, Fargo; Ohio, I. C. Grimm, Woodsfield, succeeding H. E. Smith, Marietta; Oklahoma, Paul S. Ache, succeeding Ross D. Pine, Okmulgee; Texas, Marrs McLean, Beaumont, succeeding L. C. Turman, Fort Worth; West Virginia, W. S. Hallinan, Charleston; Wyoming, Ray Phebus, Thermopolis; Pennsylvania, W. J. Brundred, Oil City. The last named is newly added to the list of vice-presidents.

E. B. Reeser, president of the American Petroleum Institute, told the delegates that while the industry was never so ill as it now is, much of its illness is psychological. It is true, he said, that there is a huge potential production ready to be drawn upon, but that great progress has been made in curtailing production.

The fact that the industry has been drawing on its stocks at the rate of 120,000 barrels per day over a considerable period, and even drew oil from storage during the winter months, leads him to the conclusion that the industry is not so sick as many believe.

MR. REESER asserted that several remedial steps are clearly marked out for the industry to follow. One is unit operation. While it will be a long while before this principle will be applied on wide scale, its benefits can be utilized immediately by the small operator. Old properties can be reduced in expense by combining their operation with others adjacent.

One of the weaknesses of the

Officers and directors of the Independent Petroleum Association of America who were present at the Tulsa convention. Seated, left to right: Dudley C. Monk, secretary-treasurer and manager; Marvin Lee, Wichita, who is president of the Kansas division; Harold B. Fell, Ardmore, assistant to the president; T. F. Hunter, Wichita Falls; Wirt Franklin, president; Van S. Welch, Artesia, N. M.; James G. Cloud, Tulsa, president of the Oklahoma division; Pat Malloy, Tulsa. Standing, left to right: Russell B. Brown, Washington counsel; B. A. LaSelle, Ada, Okla; W. G. Phillips, Chelsea, Okla; R. J. St. Germain, Tulsa; J. B. Milam, Chelsea, Okla.; J. I. Cromwell, Oklahoma City; A. D. Allison, Wichita; G. A. Dye, Tulsa; H. B. Garden, Augusta, Kans.; E. L. Mayes, Tulsa; A. S. Ritchie, Wichita and E. B. Shawver, Wichita

industry in the past several months, Mr. Reeser said, was the failure to obtain the full posted price of crude oil. The sale of oil below the market leads to depression in the refined oil markets. It will be impossible to get a larger posted price until all the oil is absorbed at the prevailing posted price.

He commended the action of the Oil States Advisory Committee in recommending that production be held to its present level until a larger price can be had. "Oh, I know," said Mr. Reeser, "that critics of proration will say, 'There it is, we always knew it was a price-fixing scheme.'

"Well, if there is a man here who isn't more interested in price right now than anything else, let him stand. Nobody stands. Of course we want a price that will enable us to live. It is ridiculous to try to disguise that ambition. Every legitimate industry must have a living return and we are not getting it."

In resolutions, the convention commended those who had aided in the fight for a tariff, including federal officials, etc. and "certain members of the Federal (Oil) Conservation Board."

The resolutions expressed gratitude to members of the board, to the Oil States Advisory Committee and the governors of several states for their efforts in getting a reduction in imports of oil. The curtailment should be even greater than has been agreed to, the resolutions said, and the imports should be reduced to the basis of that reduction practiced in the flush fields of the United States.

Mr. Malloy contended that the imports reduction had not been obtained by governmental agencies or through the kindheartedness of the importers, but had been forced by the development of East Texas fields which are able to supply a better grade of oil at a cheaper price to the East Coast trade.

"We believe," said the resolutions, "that the sale of crude oil below its posted prices or below the cost of production is a menace to the oil industry and to the general welfare of the United States. We implore all producers of oil to refuse to sell oil below the accepted posted price or to sell it in excess of the market demand. The sale of gasoline by refiners at a price less than it can be profitably refined from oil purchased at the accepted posted price and sold at a profit, is likewise a serious menace to the industry. We implore all refiners of gasoline to refuse to sell their products at such non-profitable prices."

There was some discussion of the Oil States Advisory Committee by Messrs. Malloy and Franklin. Mr. Malloy objected to the I. P. A. A. being tied into the controversy which has arisen as to the aims and worthiness of that committee. He said the committee agreed upon a 20-point program at Texarkana, then went to Washington and allowed the federal board to whittle it down to three points, all of them quite empty. One was permission for the committee to continue its existence, another a recommendation to the legislatures, all of which were either adjourned for two years or about to wind up their sessions and the third point was a recommendation that the economics committee of the federal board continue its work.

Mr. Franklin defended the committee and, in a short talk at the evening session, referred to it again. He said that if it continues wholly in an advisory capacity, it is worthy of the support of the industry.

McKee Unit in Italy Shows High Efficiency in Fractionation

By Arch L. Foster
N. P. N. STAFF WRITER

AMERICAN engineering firms are constantly playing a more and more important part in the design and construction of oil refining plants and refining units in foreign countries, as evidenced by the increasingly larger number of units installed during the last two years.

The wider experience, and more complete facilities of American firms in every phase of the refining and associated industries is being recognized by foreign refiners, while the speed with which construction is accomplished, and the exactness with which specifications and guarantees are met satisfy the demands of foreign customers to a degree not attained by foreign organizations.

The Arthur G. McKee Co., of Cleveland has recently completed and put into operation a pressure distillate re-run unit at the Naples, Italy, plant of the Societe Anonyme Benzina Italiana, one of the prominent Italian oil companies, to reduce to motor fuel specifications the cracked spirit from a Dubbs plant operated by the company.

This is a 1200-barrel pipe still and bubble tower unit, designed and constructed by the company, employing native labor for the construction and operation, under the direction of N. Finestone, McKee engineer, who spent several months in erecting, putting into operation, and drilling the employes of the Italian company in the best methods of handling the plant.

Although designed and guaranteed to run 1200 barrels of pressure distillate per day, this

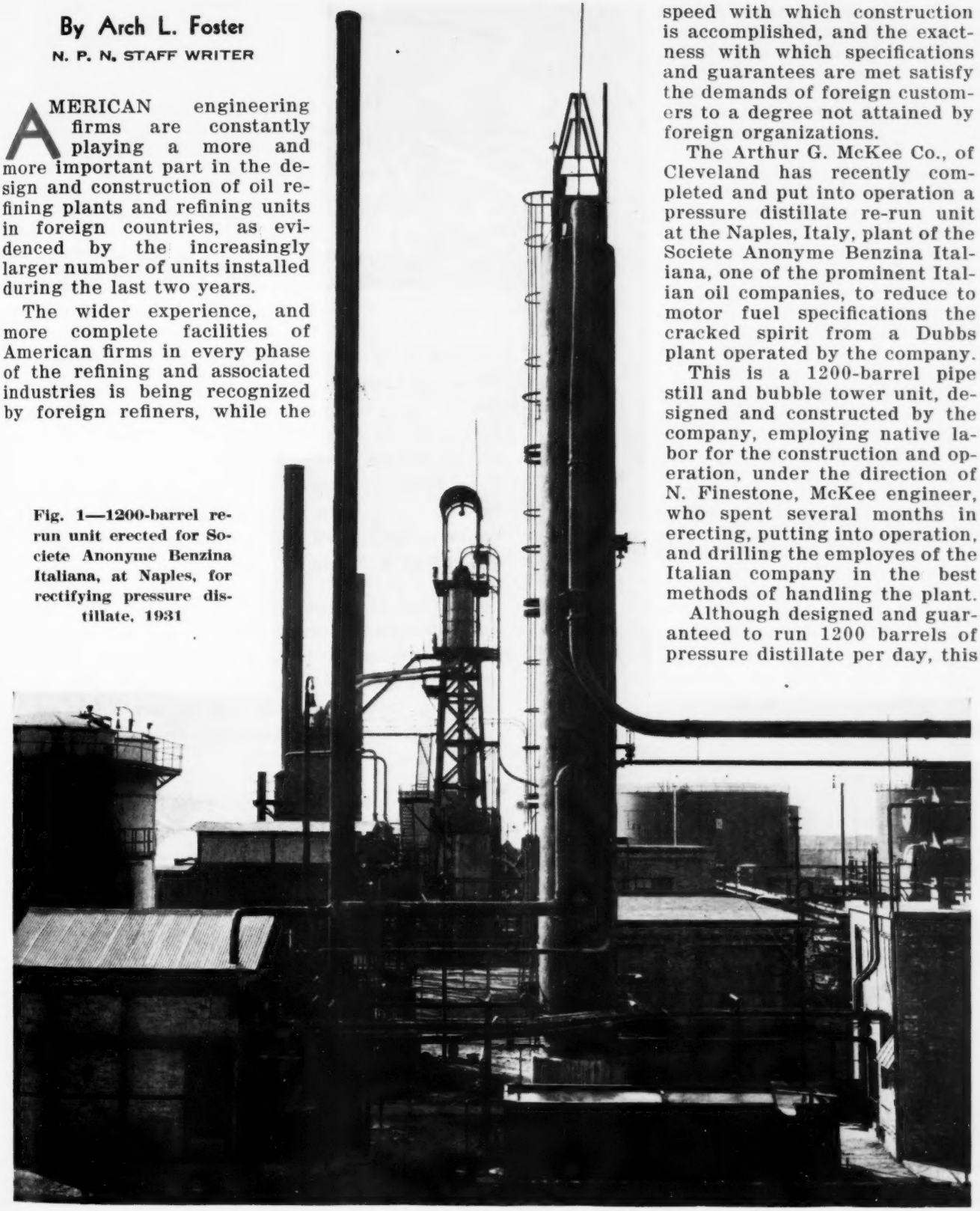
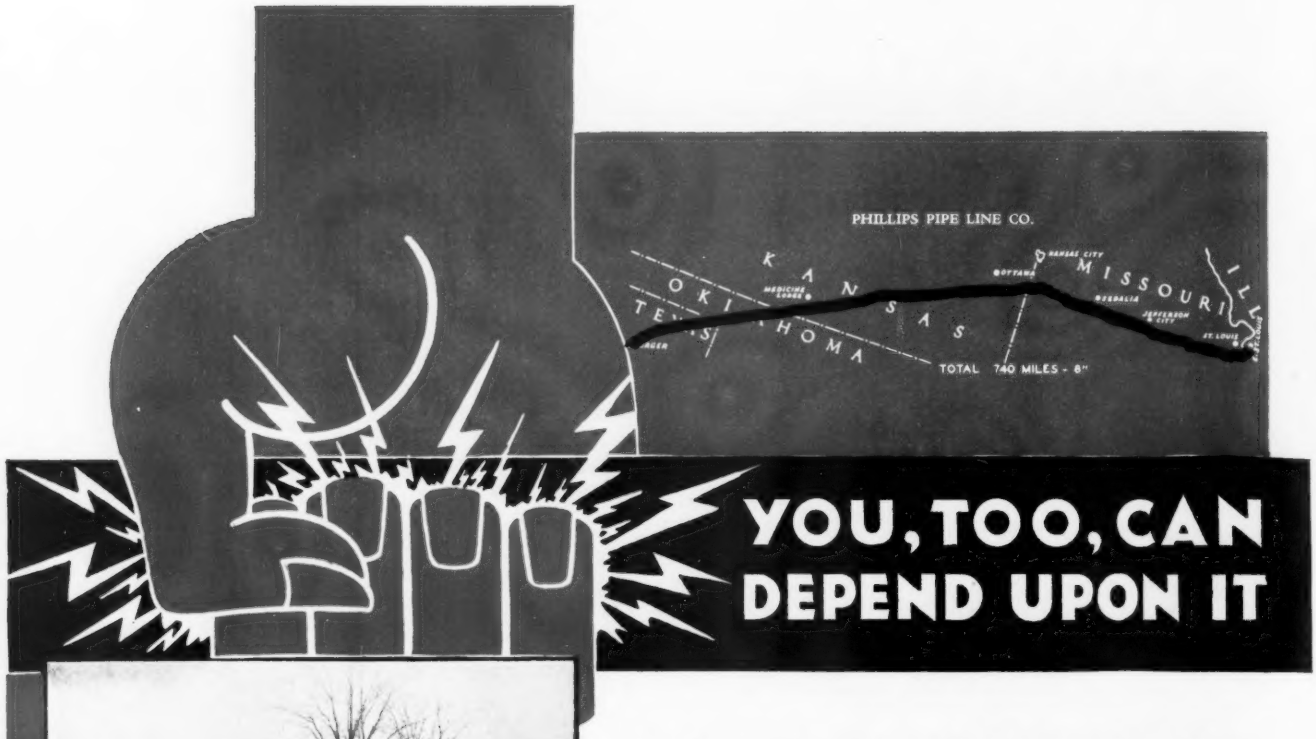
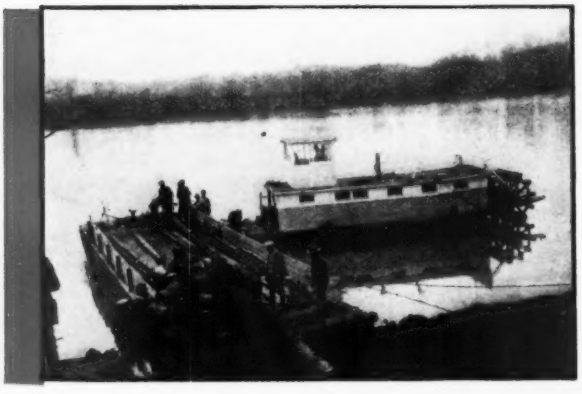


Fig. 1—1200-barrel re-run unit erected for Societe Anonyme Benzina Italiana, at Naples, for rectifying pressure distillate, 1931



YOU, TOO, CAN DEPEND UPON IT

At Borger, Texas, the eight inch line of the Phillips Pipe Line Company starts on its journey. It reaches out of Texas, through Oklahoma, Kansas and into Missouri. Near Jefferson City it reaches the bank of the Osage River. Lengths are coupled up, river clamps applied, a tug and barge come into service and before long 900 feet of pipe lies buried in the mud of the river bottom, and the line goes on to St. Louis.



For this out of the ordinary service—an out of the ordinary pipe was used—Republic Electric Weld. Long lengths meant fewer submerged joints. High tensile strength and ductility meant greater ease of handling. Sound structure and uniform thickness meant less danger of damage during progress of the crossing.

The experiences of users of Republic Electric Weld Pipe will guide you to a wise selection of pipe—one upon which you can depend without reservation.

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CORPORATION
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REPUBLIC
ELECTRIC WELD
MADE BY A NEW PROCESS CONTROLLED EXCLUSIVELY BY REPUBLIC STEEL CORPORATION YOUNGSTOWN, OHIO .....
PIPE

unit, on a 60-day continuous run, gave an average throughput of over 1320 barrels daily, which was run to 64.5 per cent overhead distillate and the remainder as bottoms. The properties of these products are given in Table 1.

The Naples plant operates on Russian crude from the Grozny district. After removal of the light fractions, the reduced crude, or "mazout," is cracked in the Dubbs units, and product being used to improve the anti-knock quality of the combined cracked and straight-run motor fuel fractions. The pressure distillate, as run at the time of taking the data given in the table, had a gravity of 49.1 A. P. I., an initial of 115 F., and 92 per cent off at 541 F.

The overhead stream had a gravity of 60.4 A. P. I., initial 86 F., and a 388 F. endpoint; the bottoms were 30.5 A. P. I., initial 410 F., and a flash of 184 F. Fig. 4 shows distillation curves for pressure distillate, overhead naphtha and bottoms from representative samples. The efficiency of the fractionation obtained is clearly indicated from these curves, a gap of 12 C. (21.6 F.), between the endpoint of the overhead and the initial of the bottoms showing that the separation in the bubble tower is decidedly good.

The pipe still is what may be termed a conventional type, with both radiant and convection banks equipped with two-inch, seamless hot rolled tubes. The transfer line from tubes to the flash section in the tower forms a preliminary partial expansion tube, the original diameter of 2½ inches being increased to eight inches at the tower shell.

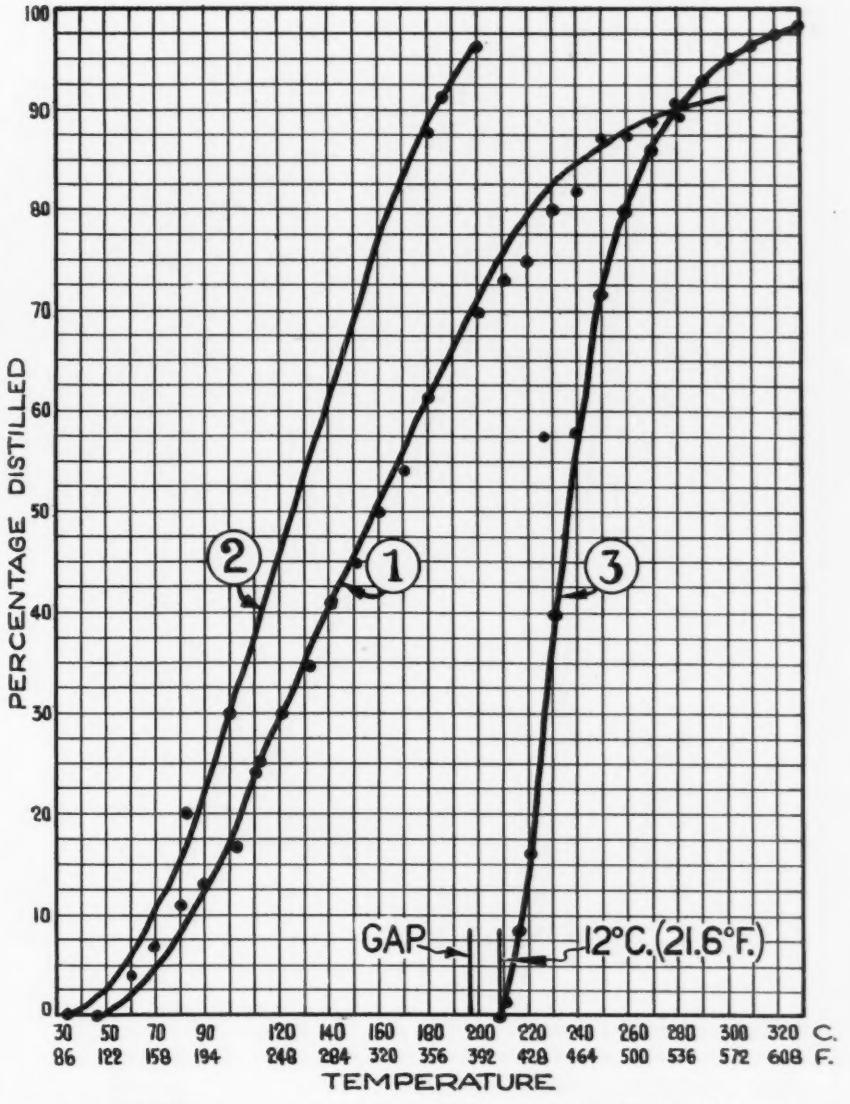


Fig. 4—Distillation curves for (1) treated pressure distillate; (2) overhead distillate (benzina), and (3) motorina bottoms, from re-run unit

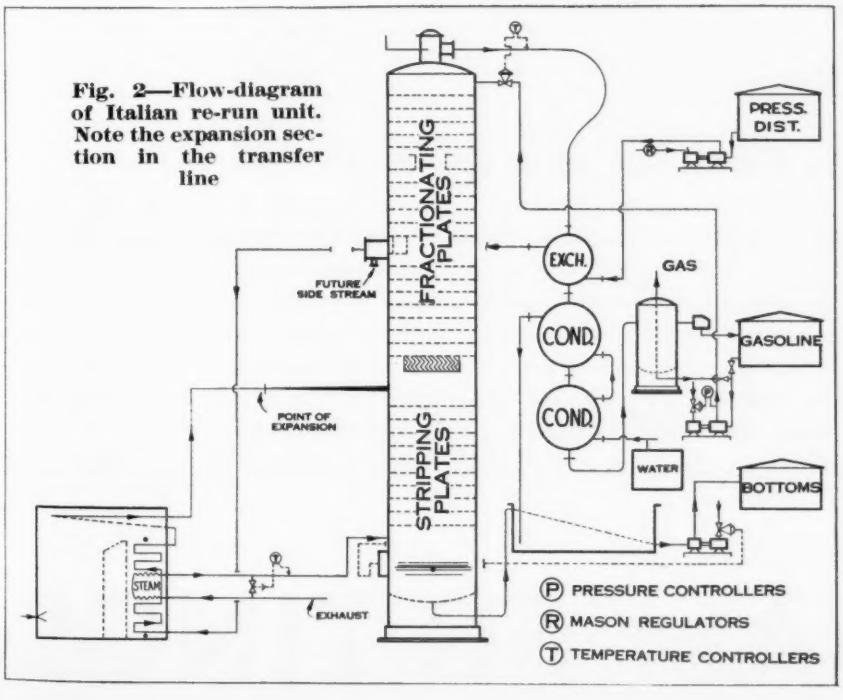
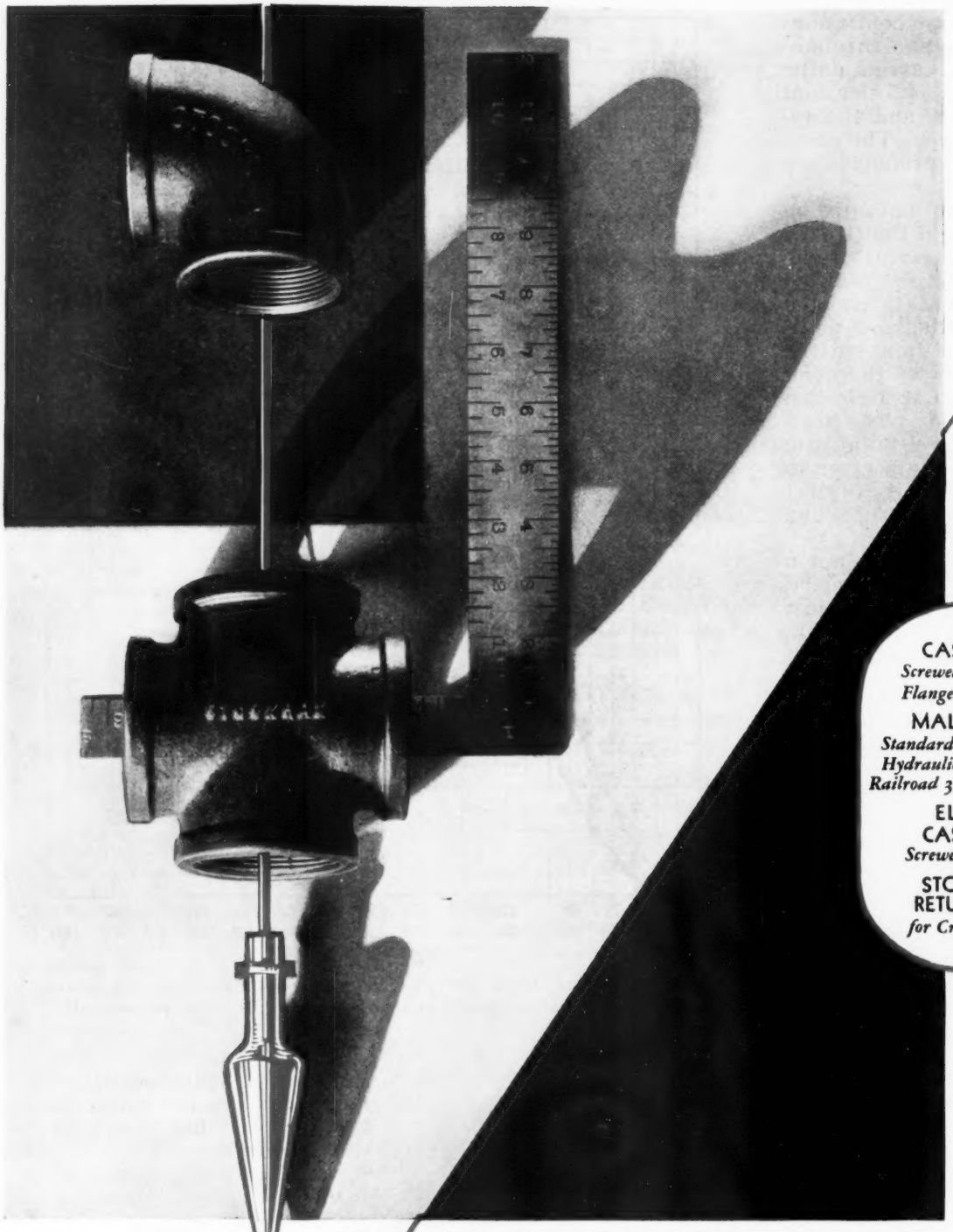


Fig. 2—Flow-diagram of Italian re-run unit. Note the expansion section in the transfer line

The tower is furnished with 26 plates in the stripping and fractionating sections. Ten stripping plates, fitted with McKee rectangular caps and risers, are located below the inlet line from the still and the remaining plates, fitted with circular caps as adopted by the designers as standard in their plants.

A louvered spray baffle is installed immediately above the inlet plate to prevent entrainment by the ascending vapors, and a water-trap tray is employed as the sixth plate from



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the tower top. A steam inlet line is inserted below the stripping plates, and above the eighth fractionating plate a weir plate is placed, providing for a side cut being taken when future operations make it desirable.

A tubular vapor heat exchanger, two tubular water condensers and a distillate separator tank comprise the condensing-receiving equipment. Reciprocating steam pumps handle all charging stock, distillate, bottoms and condenser water; the condensed steam the distillate separator is drawn off continuously through a swing-line.

The plant employs Leeds and Northrup pyrometers for indicating and recording temperatures throughout the unit. Two multipoint recorders are installed and one 12-point switch potentiometer, by which the operator may check the recorders as well as determine temperatures at any significant point in the system.

Foxboro recording meters keep a record of the flow of charge and products, with Merriam indicating meters to check these operations. Pumps are governed by Mason speed regulators, while pressure is controlled by Tagliabue pressure regulators. Pumps and recording instruments are assembled in the small brick pump house, shown just below the condensers in Fig. 1, from which the entire unit is operated.

A typical operation of the unit is given as follows: Pressure distillate of 49.1 A. P. I. is pumped at the rate of 38.3 gallons per minute to the vapor heat exchanger (upper exchanger in Fig. 2, also the upper unit shown in Fig. 1, right center), where by exchange with the distillate vapors from the tower it attains a temperature of 115 F.; at this temperature the charge enters the lower section of the convection bank in the still, and from this to the radiant section at 250 F. Temperatures within the furnace at the same time were recorded as 1220 F. at the radiant bank, 1047 F. at the top of the bridge wall, and 450 F. at the convection bank exit to the stack.

Temperature of the charge into the transfer line was 377 F., dropping to 347 F. after passing through the expansion section of the line and into the flash section of the tower. Exhaust steam from the plant, superheated to 515 F. in a special section midway of the convec-

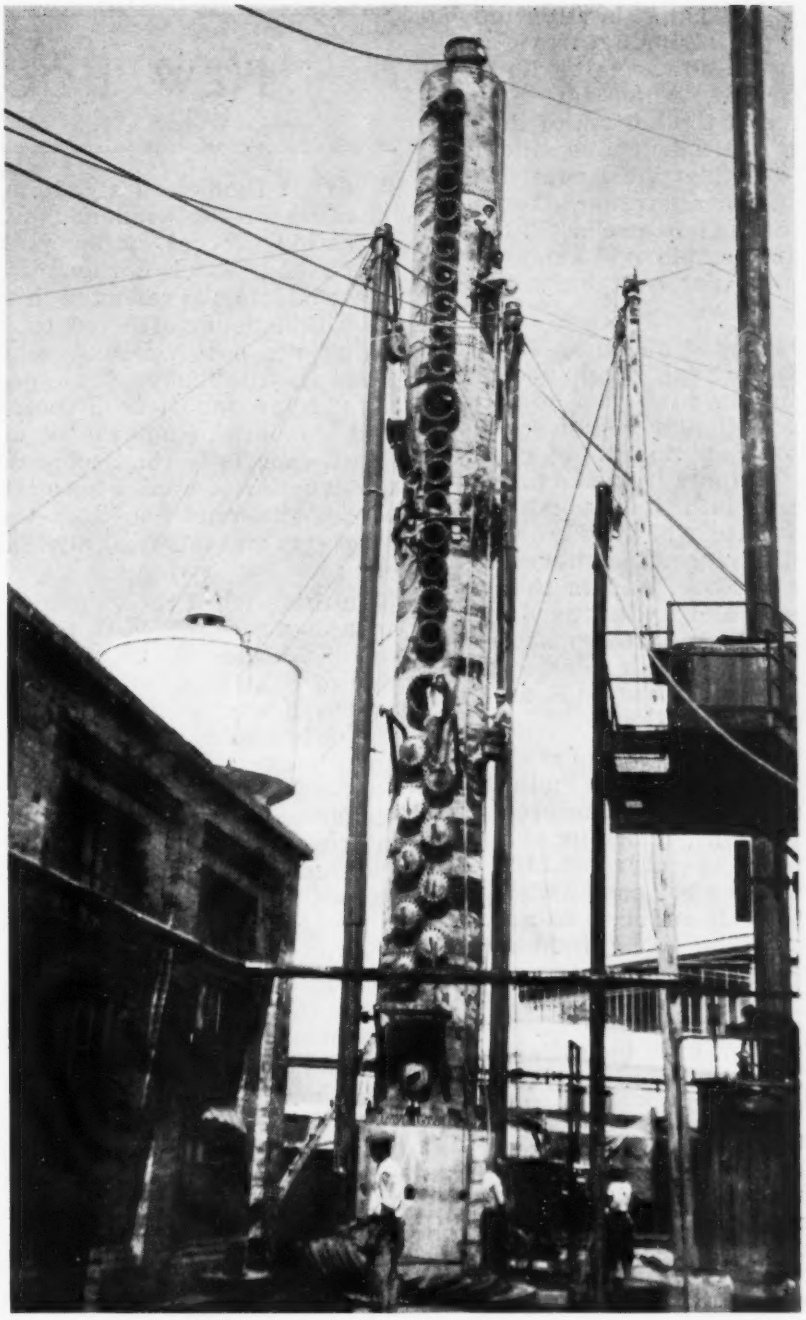


Fig. 3—Erection of the bubble tower, showing number and arrangement of manholes. The construction engineer remarked especially about the fearlessness of native workmen in carrying out this type of work

Table 1

Distillation Data on Charging Stock, Overhead Naphtha, and P. D. Bottoms from Rerun Unit Installed in Refinery at Naples, Italy

Percentage	Pressure Distillate Charge	Overhead Dist.	Bottoms
Gravity	49.1 A.P.I.	60.4	30.5
I.B.P.	115F.	86F.	410F.
30%	248	212 (30.5%)	.....
50%	320	.....	.....
70%	392	302 (69%)	.....
90%	536	.....	.....
E. P.	.....	388	(flash) 184

tion still bank, is admitted below the stripping trays, stripping the downcoming liquid on the plates, which latter is collected at the bottom of the tower and withdrawn continuously, a *Tagliabue* level control handling this operation. Temperature of the bottoms is 272 F. The steam employed amounts to about 2 per cent by weight of the charge.

Overhead distillate from the rundown tank is pumped to the top of the tower at the rate, in this particular instance, of 13.2 gallons per minute, as open reflux. Vapors from the tower top emerge into the vapor line at a temperature of 265 F., exchange with the incoming charge as detailed above, and is then condensed, along with the stripping steam, in the last two water condensers as shown, passing to the separator tank at 75 F. and into the rundown tank.

Water at 55 F. and at the rate of 79 gallons per minute is pumped through these condenser sections, emerging at a maximum temperature of 110 F., to pass to the box cooler where the bottoms is reduced to approximately the same temperature before being run to storage. Rate of reflux is controlled from the temperature of the tower top vapor line, by a Tagliabue temperature control governing the steam to the reflux pump.

It was found that the water to be used as condenser water contained an appreciable amount of temporary hardness, and that this "plated" out in the condensers. To avoid this trouble, it was determined that if the water temperature is kept below 120 F. no deposit of scale occurred. Sufficient pump capacity was provided so that the quantity of water handled cooled the products to the desired point without permitting the temperature of the water to rise above the maximum permissible and by this method scale formation has been effectually eliminated.

TORONTO — Production of natural gas in Canada totaled 3,200,000 cubic feet in January. Alberta wells supplied 66 per cent of this amount; Ontario 31 per cent and New Brunswick, about 3 per cent.

New Books Reviewed

THE fundamental importance of the economic utilization of coal, shale, petroleum, and other carbonaceous raw materials is reflected in the attention being directed to defining the best working conditions in established high pressure hydrogenation processes, and to improving the equipment, especially the design and construction of apparatus adapted to withstand the high temperatures and increasingly higher pressures used.

In this part of the second paragraph of the preface to the new third edition of "Hydrogenation of Organic Substances" the author, Carleton Ellis, outlines the outstanding feature of the new book, at least from the point of view of the petroleum technologist, and of the man interested generally in the progress of the petroleum industry.

From its position of relatively ordinary importance in previous editions of this standard work, this section of the volume has been expanded to fill more than 150 pages out of a total of 986 pages devoted to the entire subject of hydrogenation.

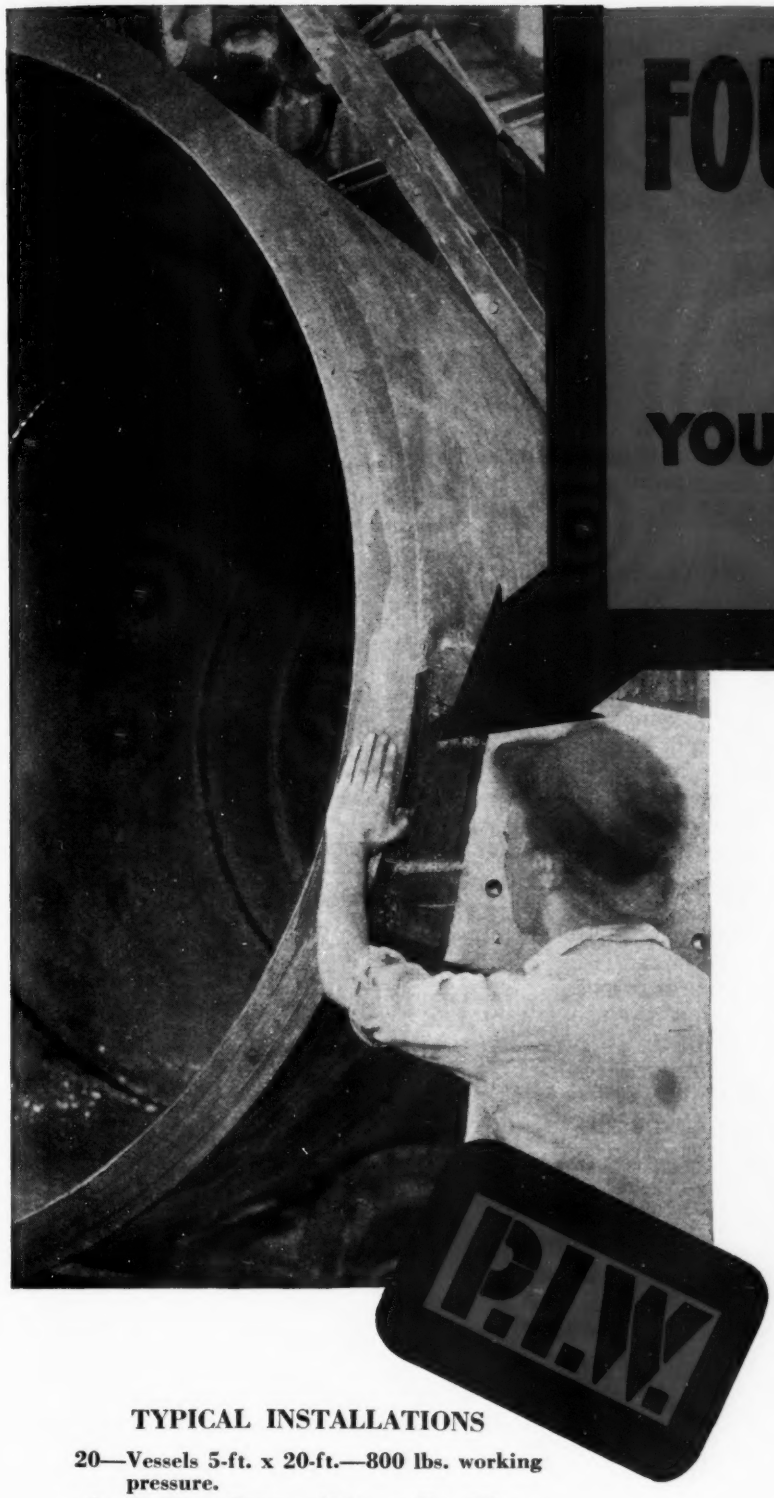
In his introductory paragraph on hydrogenating coal and related hydrocarbons, the author states that the primal urge to solve the problem of preparation of liquid fuels from coal and other solid carbonaceous natural materials is not because of any immediate fear that our petroleum supply is in any danger of soon becoming exhausted, but because of the geographical distribution of the oil, which leaves many countries which use liquid fuels in large quantities but have no appreciable supplies of petroleum within their boundaries. of the two methods of hydrogenating coal, that by addition of hydrogen of extrensic origin is the only one to be given attention in this volume, hydrogenation by adding hydrogen of intrinsic origin, i.e., hydrogen contained in the coal itself, not being considered to belong in the discussion.

The author traces the developments of hydrogenation from its earliest beginnings, with frequent references to the literature. The names of Fischer, Ipatyev Berthelot, and Tropsch are associated with the earlier work on the problem, and their work is outlined with the essential findings they achieved. Bergius' work, begun in 1913, is covered fairly completely in essential details, as well as that of Waterman and Perquin, Tashiro, and many other experimenters whose names are connected in the literature with various phases of the developments. Altogether nearly six hundred literature references on the subject are covered in the nine chapters devoted to the different phases of the problem.

Commercial developments in United States, Germany and England which have been receiving a large amount of attention during the last year or two are covered as completely as the published information permits; as a large amount of data have been published especially on certain phases of the work of these large installations, and the latest literature references are reported, the reader is brought up to date on the progress of hydrogenation to the latter part of the summer of 1930.

The author discusses the different methods of hydrogenation, with and without catalysts, at high and low pressures and temperatures, the different results attained by varying these conditions, and the effect of these variants on the products manufactured. Sources of hydrogen for this purpose, the advantages and disadvantages of using mixtures of gases containing hydrogen, preparation of hydrogen by the action of steam on natural hydrocarbon gases and other methods of its preparation are discussed, and the probable difficulties in commercial exploitation of the process are outlined.

A study of the new edition will in great measure enable the reader to obtain a concise



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picture of the satus of hydrogenation up to the present, and to draw a more intelligent conclusion as to the possibilities of the reaction and the effect of its development, on a commercial scale, on petroleum refining technology.

The remainder of the work covers the entire subject of hydrogenation, by catalysts and otherwise, of the very wide variety of organic materials to which it has been applied. Hardening of oils, animal and vegetable, of aromatic and cycle materials, heterocyclic compounds, glycerides and fatty—these and other applications of the reaction are handled with careful reference to the literature of the subjects. The preparation of catalysts, and the development of apparatus to withstand the conditions of temperature, pressure, and corrosion involved receive detailed attention and the information appears to be as authentic as literature references can make it.

The volume is priced at $15.00, and may be obtained from NATIONAL PETROLEUM NEWS.

* * *

United Kingdom Handbook

THE United Kingdom, an Industrial, Commercial, and Financial Handbook, recently issued by the Bureau of Foreign and Domestic Commerce, Washington, D. C., is doubtless the most complete review of the commercial and industrial status of Great Britain and her dependencies that has so far been compiled.

The volume contains 940 pages devoted to the commercial and industrial structure of the Kingdom, prewar and postwar costs of production, itemized and dealt with in a detailed manner. Labor, unemployment, and living costs are summarized completely with exhaustive tables of information on every phase of these subjects.

Fifteen chapters are devoted to discussions and data on the basic industries, coal oil, rubber, paper, textiles, chemicals, agriculture, etc. Overseas trade, transportation, British finance are also covered thoroughly.

The British Market is the title of Part III of the volume, which discusses the selling of American Merchandise in the United Kingdom, commercial laws of the kingdom, tariffs, imperial preferences to British goods, advertising methods, and living costs in the kingdom. Part IV is devoted to similar studies of Northern Ireland.

The book should make a valuable reference work as well as working volume for the actual or prospective mercantile man, industrial or commercial. It may be obtained from the Supt, of Documents, Washington, price $1.75.

* * *

Oil Tankers

A REVISED and enlarged second edition of "Oil Tankers" covering modern design, construction, repairs and operation of oil carrying vessels, has been published by Simmons-Boardman Publishing Co., 30 Church St., New York. Robert W. Morrell, consulting specialists on tanker problems, who was formerly naval architect for the Standard Oil Co. of New Jersey and later marine superintendent for the Tide Water Oil Co., is author.

The book is a complete treatise on the handling of bulk oil and the transportation of petroleum products by water. It was written to be of value to marine executives, including superintendents, port engineers, purchasing agents, deck and engine officers on oil tankers and on all vessels using fuel oil.

* * *

Treatise on Leather Belting

THE American Leather Belting Association, New York City, has recently issued the new volume, "Treatise on Leather Belting," by G. B. Haven and G. W. Swett.

Beginning with detailed discussions of the manufacture of leather, and from this material the manufacture of leather belting, the volume continues with discussions of the use of leather belts, methods of calculation of the sizes of belts on basis of work to be done, giving formulae for size and widths of belt as related to horse-power delivered, speed of belt, single and double installations.

The book contains with graphs, curves, and tables giving constants and data needed by the belt designer, manufacturer and user for the estimation of types of belts and the different phases to be considered is designing belts for all purposes.

One of the most important chapters is devoted exclusively to belt engineering, with fairly complete mathematical discussion, with formulae and tables, graphs and stress diagrams on shaft design, bearings and pulleys, belt angles, etc.

The work is of special interest to the designer and to those most interested in specifying belting for specific purposes.

One chapter is devoted to specifications for belting, with a considerable number of sample specifications. The volume may be obtained from the Association at a price of $1.50.

* * *

Properties of Alloys

"TABLES of Chemical Compositions, Physical and Mechanical and Corrosion-Resistant Properties of Corrosion-Resistant and Heat-Resistant Alloys" is the self-explanatory title of a new publication recently issued by the American Society for Testing Materials. The tables were formulated by Committee A-10 on Iron-Chromium, Iron-Chromium-Nickel, and Related Alloys of the society, and sells for $1.50 per copy, in a special binder.

The tables are very exhaustive for the purpose, and contain a mass of detailed information on all, or practically all the common, and the newer alloys for resisting heat and corrosive action on plant, pipeline, or elsewhere. Properties of the alloys at ordinary and at elevated temperatures are included, with trade names, composition, forms in which each alloy is regularly or specially made, fabricating characteristics, and other pertinent data.

A prospectus, containing several of the large folded tables as specimens, may be had without charge by writing R. E. Hess, assistant secretary of the society at 1315 Spruce Street, Philadelphia.

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Fig. 1—Surakhanui ceresine of 63.5°C. melt. pt.

Fig. 2—Surakhanui ceresine of 71°C. melt. pt.

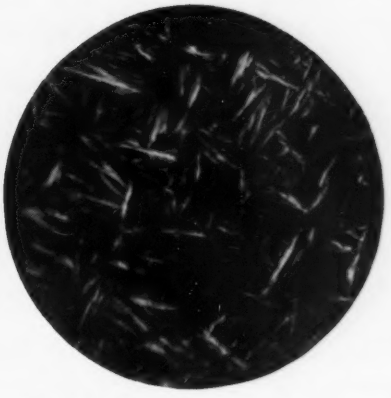

Fig. 3—Surakhanui ceresine of 85°C. melt. pt.

Properties and Structures of Paraffin Waxes and Ceresines

By Dr. A. N. Sachanen, Miss L. G. Zherdeva and A. N. Vasilyev*

Part 2

A THOROUGH investigation of ceresines contained in Surakhanui crudes made it possible to determine their most important properties. Lubricating oil distillates from the Surakhanui crude oils contain ceresines besides paraffins; consequently the separation is carried out with great difficulty. For this reason ceresines were separated from residuums after the distillation of lubricating oil distillates containing paraffins.

It is possible that paraffins are absent in these residuums or are present only in small quantities, because all fractions separated from these residuums were of a specifically ceresine character, which is also confirmed by treatment with fuming sulfuric acid. This applies to a lesser extent to long residuums, left over after taking off some lighter fractions, in which some of the paraffin was still left. Consequently ceresines separated from these long residuums have some properties which are slightly different from residuums containing more paraffins.

The heavy residuum obtained from Surakhanui crude oils amounted to 20 per cent of the crude and had the following properties: D_{15} 0.918, E_{100} viscosity 4.0 — 4.5, open cup flash 300°C., cold test + 42° + 48°C. Light residuums were obtained to 27 per cent of the crude and had a D_{15} 0.910, E_{100} viscosity 3.25, flash 260°C. and cold test + 42°C.

The residuums were treated with sulfuric acid (10-12 per cent) at 60°-70°C. and with fullers earth by the contact method. The treated products were centrifuged in a naphtha solution in Sharples super-centrifuges. Petrolatums so obtained were thus used for preparing ceresines. The heavy residues yielded 12-15 per cent petrolatum after distilling off the naphtha and contained a considerable amount of oils and long residuums which amounted up to 15-20 per cent.

Crude ceresines were separated from the petrolatum, the former were then freed from oil and fractionated by crystallization from gasoline solutions and from a mixture of gasoline and butanone. To obtain high melting ceresines the recrystallization was carried out at room temperature. The final fractionation of preliminary chosen fractions was carried out 10 to 15 times not counting the crystallization from gasoline solutions; each of the fractions obtained was treated with fullers earth and carbon until it was white and was then finally recrystallized from a gasoline solution.

Low melting ceresines separated out on the filters after the separation of the higher melting ones; in this case the recrystallization from the gasoline-butanone solution had to be carried out at 0°C. All separated fractions have a perfectly white color. (see Table 3). Ceresines of 65.5°, 61.5° and 56°C. melting point were recrystallized from an acetone-

*Translated from the Russian by A. A. Boehtlingk.

Table 4

Properties of Paraffins from Grozny Paraffin Base Crude Oil

Melting point	Specific Gravity at 20°C.	Specific Gravity at 80° C.	Specific Gravity at 100° C.	Absolute Viscosity at 80° C.	Absolute Viscosity at 100° C.	Nitrobenzene points maximum	Aniline points maximum	Refractive index at 99.5°C.	Penetration	Average boiling point	Molecular weight	Elementary Composition % C	Elementary Composition %H	Formula
28.3°C.	0.859	0.745	0.731	0.01476	0.01058	42.1°C.	.....	1.4099	....	379°C.	271	84.91	14.95	$C_{19}H_{40}$
32.8 "	0.872	0.746	0.736	0.01727	0.01235	44.0 "	.....	1.4118	....	395 "	284	84.80	15.00	$C_{20}H_{42}$
40.0 "	0.879	0.753	0.740	0.01995	0.01452	47.6 "	.....	1.4153	....	399 "	310	85.06	14.88	$C_{22}H_{46}$
44.3 "	0.901	0.757	0.745	0.02966	0.01766	52.2 "	.....	1.4182	26	.....	332	85.18	14.78	$C_{24}H_{50}$
47.0 "	0.906	0.760	0.747	0.02426	0.01738	52.4 "	.....	1.4178	26	440 "	334	85.44	14.80	$C_{24}H_{50}$
49.0 "	0.909	0.761	0.747	0.02794	0.01959	53.4 "	.....	1.4188	18.2	444 "	336	85.44	14.51	$C_{24}H_{50}$
54.3 "	0.914	0.765	0.752	0.03296	0.02036	56.2 "	.....	1.4218	13.7	475 "	395	85.56	14.69	$C_{28}H_{58}$
57.0 "	0.918	0.770	0.757	0.03718	0.02637	59.4 "	120.2°C.	1.4237	12.8	474 "	400	85.37	14.80	$C_{29}H_{60}$
60.3 "	0.919	0.771	0.759	0.03853	0.02598	61.0 "	121.4 "	1.4243	10.3	498 "	427	85.33	14.82	$C_{30}H_{62}$
64.0 "	0.921	0.774	0.760	0.04721	0.03190	63.6 "	123.4 "	1.4260	8.3	515 "	447	85.42	14.73	$C_{32}H_{64}$
66.3 "	0.923	0.775	0.763	0.04770	0.03225	65.2 "	126.0 "	1.4266	7.0	528 "	463	85.55	14.52	$C_{33}H_{68}$
71.3 "	0.933	0.779	0.766	0.05731	0.03711	69.2 "	.....	1.4283	8.3	562 "	492	85.36	14.63	$C_{35}H_{72}$

gasoline mixture (about 1:1). After the final treatment the last crystallization was carried out from a gasoline solution.

It should be noted that as a rule the removal of oil from ceresines is a very difficult operation because of the ability of ceresines to absorb and to hold the oil tenaciously.

Amount of oil added	Melting point of ceresine
0%	83°C.
10%	83°C.
40%	81°C.
60%	79.5°C.

The influence of oil on penetration is slightly higher. Experiments were carried out with a ceresine of 80.5°C. melting point and with the above oil.

Amount of oil	Penetration	Refractive Index
0%	6.5	1.4354
1%	6.0	1.4362
2%	6.5	1.4370
5%	10.0	1.4385

Table 3 (See Part I NATIONAL PETROLEUM NEWS, April 22) gives constants determined for all separated ceresines. Molecular weights were determined in benzene by the ebullcospocis method at three different concentrations corresponding to an increase of the boiling temperature by 0.3°, 0.5° and 7°C.

The refractive index was determined in a Pulfrich refractometer for a sodium flame.

The penetration was determined in a Richardson penetrometer at 25°C., using 100 grams and a duration of 5 seconds.

Table 4 contains various properties of the typical paraffins which were determined by one of the authors and by N. A. Vasilyev. These data related to fractions which are not very narrow and which belong to typical paraffins from Grozny crude oil; they are, however, fairly close to data obtained by other authors, particularly to those of F. Francis.[9] The results obtained by Buchler and Graves[10] probably relate to more narrow fractions and will give some deviations (in molecular weights at the same melting point) from our results which however, is insignificant.

Data given in this table show that the ceresines belong to the paraffin hydrocarbon class which is also the case with paraffins. While different from the latter (see Table 4), ceresines are characterized by a very high viscosity, which is about double that for paraffins of the same melting point. They also have much higher nitrobenzene points.

At identical melting points, ceresines have a much higher molecular weight than paraffins. This is also true for the specific gravity and the refractive index of ceresines which are higher than for paraffins of identical melting points.

Paraffins as well as ceresines form homologous hydrocarbon series. Out of Surakhanui crude, as can be seen from table 3 we succeeded in separating ceresines of 55° and 85°C. melting points. Doubtlessly still lower and higher melting point ceresines can be separated, but they are present in the crude oil in comparatively much smaller quantities. As a rule, ceresines present in the crude oils are mostly of the high melting point variety.

The important conclusion which can be derived from our data is the fact that ceresines form a series of hydrocarbons independent of the paraffins. Thus for example the paraffin $C_{36}H_{74}$ has a melting point of 76°C. and a specific gravity of 0.782 at 76°C., while a ceresine which is separated $C_{37}H_{76}$ has a melting point of 56°C. and a specific gravity of 0.786 at 100°C.

When separating ceresines from Grozny paraffin base crude oil ceresines identical with those from Surakhanui crude were obtained. In this case as well only high melting point ceresines with a melting point above 72°C. were separated. We conclude therefrom that ceresines (as well as paraffins) from all crudes belong to the same series.

The ability of ceresines to retain oils and not to release them when filtered or when subjected to sweating has been mentioned. This is the fundamental feature of ceresines. We showed experimentally that this property is transferred also to paraffins if ceresine is admixed to the latter in quantities not exceeding ½ per cent. This explains the necessity of a careful rectification when distilling the paraffin distillate to separate it from slop wax distillate[11] because the presence of even minute quantities of ceresines in the paraffin distillate changes the crystalline structure of paraffins, making it unsuitable for filtration and sweating.

A remarkable physical feature of the ceresines is their high boiling point. The method by which ceresines are obtained from Surakhanui crude give an excellent illustration of this property; all ceresine fractions from the low melting ones, (melting point 55-56°C.) re-

[9] Jour. Chem. Soc.: *121*, 1529 (1922); C. A.: *16*, 2301 (1922). The results obtained by Buchler and Graves.

[10] Ind. Eng. Chem.: *19*, 718 (1927); C. A.: *21*, 2554 (1927). Probably relate to more narrow fractions and will give some deviations (in molecular weights at the same melting point) from our results which however, is insignificant.

[11] Cf. A. G. Peterkin. Oil and Gas J.: *26*, No. 33, 64, 94, 97-8, 101-2 (1928); C. A.: *22*, 1464 (1928).

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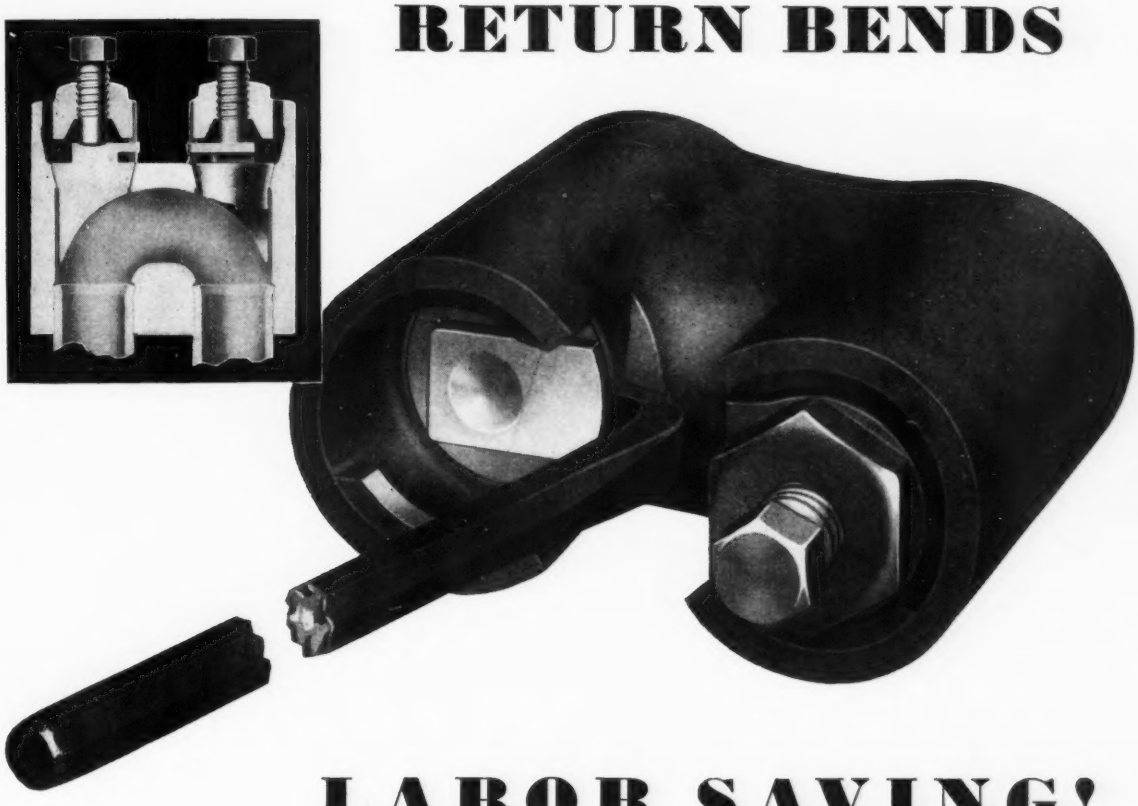

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Faster closure removal and assembly common to all OHIO return bends are developed to a high degree in the Frictionless types. The design provides a valve plug with rectangular top and extended lip under which a pinch bar can be inserted for quicker plug removal. Thus expensive down-time is reduced to a minimum. Units go back on stream in less time. Production is resumed more quickly. Labor saved. Time saved.

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Fahrite tube supports insure great load carrying strength under high temperature

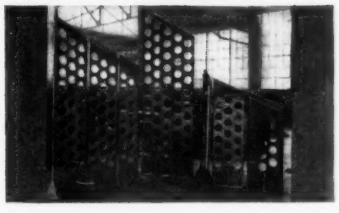

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Table 5

Distillation of Ceresines in High Vacuum

Pressure mm.	Distillation temperature °C.	Distillation temperature at ordinary pressure °C.	Per cent distilled over	
	Melting point of ceresine 61.5°C.			
2	273-332	539-627	30.5	
2	332-384	627-705	27.2	
2	384-411	705-745	25.6	
2	411-407	745-739	12.8	
Residue	.....	.....	3.3	
Loss	.....	.....	0.6	
	Melting point of ceresine 71°C.			
2	289-310	563-595	8.0	
1½	310-320	595-623	14.0	
1½	320-331	623-640	16.0	
1½	331-346	640-662	13.3	
1	346-380	662-728	15.3	
1	380-418	728-787	28.7	heavy decomposition
Residue	.....	.....	2.0	
Loss	.....	.....	2.7	
	Melting point of ceresine 80.5°C.			
2½	up to 296	up to 564	20.7	
2½	296-326	564-608	15.3	
2	326-377	608-724	40.7	
Residue	.....	.....	19.3	
Loss	.....	.....	4.0	

main in the residues, i. e. they do not evaporate at temperatures of the liquid, which is above 300°C., or when using an excess of steam for the evaporation of the liquid.

In order to determine, more accurately, the boiling points of ceresines, some of them were distilled in high vacuo and the boiling temperature was then converted to that at atmospheric pressure according to L. G. Gurvich.[12] The following table 5 shows the results of these distillations.

The distillation of ceresines takes place at very high temperatures even in a very high vacuum, as can be seen from the data in table 5. Towards the end of the distillation the temperature reaches 400°C. at which the decomposition of ceresines is already quite noticeabe. However, from the distillation described above it can be seen that the ceresine fractions obtained have a yield of 35 per cent within 300°-400°C. at pressures amounting to 2mm., or within 550°-725°C. atmospheric pressure.

Such a high boiling point of ceresines accompanied by a correspondingly low volatility explain why paraffins become separated from ceresines during the lubricating oil distillation. The paraffins have low boiling points and distill together with gas oils and other lubricating oil distillates, while ceresines are concentrated in cylinder stocks.

It should be recalled that in the lubricating oil distillation the highest heating temperature does not exceed 350°C. in shell stills and 400°-420°C. in pipe stills, i. e. it is considerably lower than the initial boiling point of ceresines. The fact that ceresines sometimes appear in heavy lubricating oil fractions can be explained by the action of steam and by the presence of ceresines of a lower boiling point than those which were investigated by the authors.

[12]Sci. Prin. Pet. Tech. London, 1926, p. 237.

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Indiana Standard Loses Rail Rate Appeal

WASHINGTON, April 23.—While the Standard Oil Co. of Indiana was winning in the cracking process suit in the Supreme Court of the United States recently, it was losing the suit involving the question of reparation on thousands of cars of gasoline and other products shipped to points east of the Mississippi River in 1924 and 1925 concerning which it contended that the railroads had not applied the proper freight rates.

The high court said that it had no jurisdiction over the matter because the order of the Interstate Commerce Commission was negative in character and therefore could not be taken to court. It further said that the Standard, having elected to go to the Interstate Commerce Commission, thereby shut itself out of its right to go to a court demanding reparation. The court further said that the question presented to the regulating body was an administrative question and not merely one of law.

It said that the sort of a court the Standard had gone to, a three judge tribunal, was not the sort of a court that could have entertained the suit if the Standard had elected to go to court in the first instance instead of to the commission.

This was a test court case which, if it had been won, would have required the Interstate Commerce Commission to have awarded somewhat between $15,000,000 and $20,000,000 of reparation to dozens of oil companies, including the National Refining Co., which initiated the kind of litigation which the adverse court decision now makes of no value.

ADVERTISING PAGES REMOVED

Visiting Around the Refineries

By Arch L. Foster

MESSRS. S. KO, Okura Co., New York, and Osamu Kasahara, engineer, Ogura Oil Co., Ltd., Tokyo-Fu, Japan, have been spending a few days in the Mid-Continent region. They were investigating the more recent developments in refining technology and practice in different refineries.

Mr. Kasahara left Japan several months ago, studying the oil regions in Russia and in Rumania on his way to the United States. From the Mid-Continent he will visit the Pacific coast and inspect several refining plants there and afterward return to Japan.

* * *

PIERRE BOUVIER, assistant manager of Omnium International de Petroles, Bucarest, Rumania recently came to the Mid-Continent from the Pacific coast, where he has been on a tour of inspection of refineries and their operation as practiced in California. Mr. Bouvier will spend about a month in continuing his study of Mid-Continent and eastern refineries, before returning to Rumania.

* * *

V. KALICHEVSKY, research chemist and chemical engineer, has been employed on research work in the petroleum refining industry for severals years by different oil companies. He is joint author with Dr. B. A. Stagner of the work "Action of Various Refining Agents on Petroleum Products," which will be issued shortly by the American Chemical Society as one of the chemical monograph series. He was employed formerly by the Union Oil Co. of California, and by the Standard Development Co.

V. Kalichevsky

THE introduction of J. Hansen, manager of the lubrication division, manufacturing department of the Shell Petroleum Corp., to the oil business took place in 1897 when he was for a short period with the Standard Oil Company of New Jersey.

He decided, however, that he had not yet seen enough of the world, so he made a couple of trips around the globe. Incidentally, he was in the U. S. Transport Service during the Spanish-American campaign.

J. Hansen, Manager, Lubrication Division, Manufacturing Dept., Shell Petroleum Corp., St. Louis, Mo.

In 1907 he got a job in the wax plant of the Texas City Refining Company, which later became the Pierce-Fordyce, where he remained about six years, four of which were put in as foreman. In 1912 patents were granted on continuous wax pressing. His next job was Superintendent of the Niotaze Refining Co., Niotaze, Kan., and from there he moved to the Kansas Oil Refining Co., Coffeyville, as superintendent for D. W. Moffitt.

While at Coffeyville, Mr. Hansen became interested in cracking and obtained patents on a cracking process, which was later taken over by the O. K. Refining Co., Niotaze, where Mr. Hansen spent another couple of years as superintendent. After a short interval with the Indiahoma he joined the Pan-American Refining Co. (now the Producers and Refiners Corp.) at West Tulsa.

Fred Aiken, President of the Inland Refining Co., invited him to take charge of the Inland properties, which at the time were quite extensive.

Mr. Hansen remained with the Inland till 1924 when he joined the Shell or, as it was then called, the Roxana Petroleum Corp., to supervise the bright stock plant, which was then in course of erection.

He continued in charge of the lubrication department at the Wood River, Illinois refinery till March, 1930, when he was transferred to the main office in St. Louis as manager of the lubrication division, manufacturing department.

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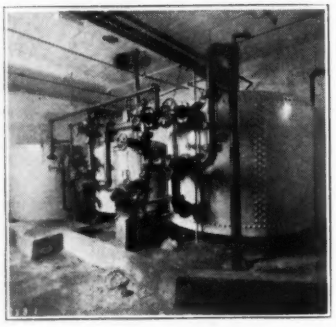

Raw water, or partly treated water, are expensive to use in power or process steam plants. The excess plant maintenance, the reduced efficiency and the uncertain results to be obtained build up an expense account that is an unfair burden to production costs.

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New Patents

Prepared by R. E. Burnham, patent and trade-mark attorney, 1343 H Street, N. W., Washington, D. C., from whom copies may be obtained at the rate of 20c each. State number of patent and name of inventor when ordering.

April 7, 1931

REFINING

Hydrocarbon-oil conversion—Carbon P. Dubbs, Wilmette, Ill., assignor to Universal Oil Products Co., Chicago, Ill. No. 1,799,218.

Hydrocarbon-oil treatment—Jacob B. Heid, Chicago, Ill., assignor to Universal Oil Products Co., same place. No. 1,799,231.

Lining for metal parts of oil-cracking apparatus—Lyman C. Huff, Chicago, Ill., assignor to Universal Oil Products Co., same place. No. 1,799,234.

Apparatus for producing lower-boiling-point hydrocarbons — Carbon P. Dubbs, Wilmette, Ill., assignor to Universal Oil Products Co., Chicago, Ill. No. 1,799,413.

Process of fractionating liquids such as mineral oils and the like—Alfred R. Earl and Thomas W. Reeves, Toledo, Ohio. No. 1,799,414.

Refining and purification of hydrocarbon oils—Jacque C. Morrell, Chicago, Ill., assignor to Universal Oil Products Co., same place. No. 1,799,-431.

Process of cracking oil—Robert T. Pollock, New York, N. Y., assignor to Universal Oil Products Co., Chicago, Ill. No. 1,799,530.

Process of refining oil—Arthur E. Pew, jr., Bryn Mawr, Pa., assignor to Sun Oil Co., Philadelphia, Pa. No. 1,799,640.

Purification of tar acid-bearing oils—Solomon Caplan, Brooklyn, N. Y., assignor to Combustion Utilities Corporation, New York, N. Y. No. 1,799,780.

PRODUCTION

Samson Post—Harry H. Franks, Tulsa, Okla., assignor to Tidal Oil Co., same place. No. 1,799,160.

Operating mechanism for temper screws (in well drilling)—Floyd V. and Louis P. Kesselman, Butler, Pa. No. 1,799,171.

Pumping mechanism — Granville A. Humason, Houston, Tex. No. 1,799,373.

Rotary well-drilling tool—John P. Davis, St. Louis, Mo., assignor to Kennedye Corporation, same place. No. 1,799,411.

Driving mechanism for oil-well pumps—Edward C. Ekstromer, Redwood City, Calif. No. 1,799,458.

Well-drilling bit—Robert D. Martin, Jacksonville, Tex. No. 1,799,473.

Deep-well-drilling mechanism—Paul A. Hunicke, Chicago, Ill., assignor to Hunicke Co. No. 1,799,559.

Headache post — William Eustice, Tulsa, Okla., assignor to Parkersburg Rig & Reel Co., Parkersburg, W. Va. No. 1,799,964.

Sampling device for wells—William P. Johnson, Daisetta, Tex. No. 1,800,-144.

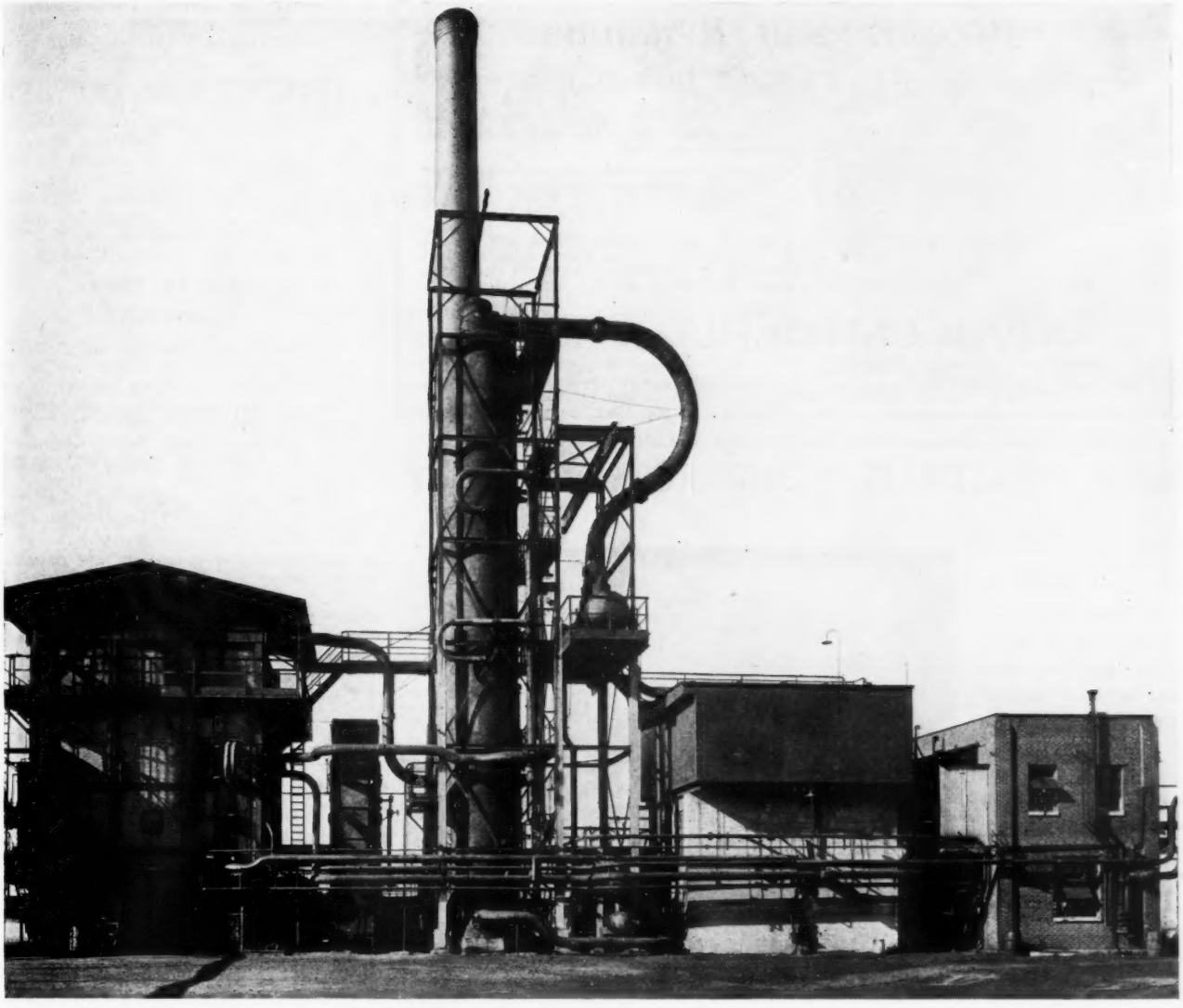
Well-drilling fluid-separating device—Herman Brauer and Charles R. Trail, Seminole, Okla. No. 1,800,168.

MISCELLANEOUS

Automatic gasoline-dispenser — Charles W. Davis, jr., Minneapolis, Minn. No. 1,799,737.

Production of unsaturated hydrocarbons—Paul Feiler, Ludwigshafen-on-the-Rhine, Germany, assignor to I. G. Farbenindustrie. No. 1,799,787.

(*Continued on Page* 76)



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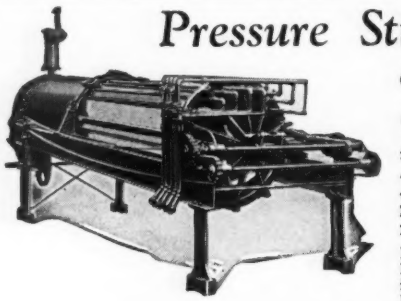

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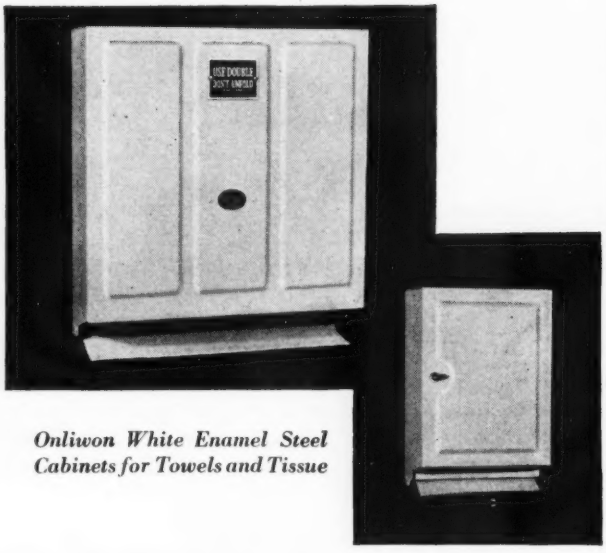
Do you realize the great dangers of contagion in plant washrooms and service station restrooms? How the repeated use of common, insanitary cloth towels and ordinary, harsh toilet paper will spread diseases and infections? You should—because you are responsible for safeguarding the health of your employés and of the customers who come to your stations.



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Recognize this health-responsibility by providing your employés and customers with individual paper towels and absolutely pure and safe toilet tissue. Install *Onliwon Paper Towels and Toilet Tissue* in your plant washrooms and service station restrooms. Onliwon Toilet Tissue, interfolded, is strong, pure and non-irritating. Onliwon Cabinets protect both towels and tissues from dust, dirt and other contamination.

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Onliwon Cabinets, too, feature economy as well as cleanliness. They will not release more than one towel or two sheets of toilet tissue at a time. They avoid waste and theft. It will pay you to know all about Onliwon Towels and Toilet Tissue. Write to the A. P. W. Paper Company, Albany, N. Y.

● A. P. W. is also the largest manufacturer of single-fold towels as well as the oldest manufacturer of roll toilet tissues.

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Filling-nozzle—Jean Swicky, Farnham Royal, England. No. 1,799,999.

Prevention of evaporation losses—Harold V. Atwell, Whiting, Ind., assignor to Standard Oil Co. of Indiana. No. 1,800,043.

Insecticide and fungicide—Frederick W. Sullivan, jr., and Elmer W. Adams, Whiting, Ind., assignors to Standard Oil Co. of Indiana. No. 1,800,114.

April 14, 1931

REFINING

Distillation process—Stuart P. Miller, Philadelphia, Pa., assignor to Barrett Co. No. 1,800,224.

Process and apparatus for treating petroleum hydrocarbons — Walter M. Cross, Kansas City, Mo., assignor to Gasoline Products Co., Wilmington, Del. No. 1,800,436.

Natural-gas-conversion process—Malcolm P. Youker, Tulsa, Okla. No. 1,800,586.

Apparatus for cracking and distilling hydrocarbons—John H. Anderson, Detroit, Mich., assignors to Altithermo Engineering Co. No. 1,800,672.

Process for breaking petroleum emulsions—Julius Hyman and Arthur F. Schlandt, Chicago, Ill., assignors to Pure Oil Co., Chicago, Ill. No. 1,800,887.

Process of refining mineral oils—Morris Teplitz, Kansas City, Mo., assignor to Corona Conversion Corporation, same place. No. 1,801,213.

PRODUCTION

Fishing-tool—John D. Lemex, Tulsa, Okla., assignor to Oil Well Supply Co., Pittsburgh, Pa. No. 1,800,736.

Bore-hole-surveying apparatus—Alexander Anderson, Fullerton, Calif. No. 1,801,132.

Well-pump equipment — John E. Roark, Shreveport, La. No. 1,801,209.

MISCELLANEOUS

Lubricant-dispensing apparatus — Austin L. Wertz, Lakewood, Ohio. No. 1,800,333.

Retort for the treatment of oil shales, bitumens, hydrocarbons, and other elements — Alexander Stewart, Denver, Colo. No. 1,800,366.

Process for the manufacture of adsorbent clay—Thomas L. Henderson and William Kelley, Los Angeles, Calif., assignors to Filtrol Co. No. 1,800,687.

Production of motor fuel—Gustav Egloff, Chicago, Ill., assignor to Universal Oil Products Co., same place. No. 1,800,822.

Process of treating petroleum products—Gustav Egloff, Chicago, Ill., assignor to Universal Oil Products Co., same place. No. 1,800,823.

Method and means for cooling packing of hot-oil pumps—Lyman C. Huff, Chicago, Ill., assignor to Universal Oil Products Co., same place. No. 1,800,833.

Apparatus for removing carbonaceous material from oil apparatus—Howard W. Sheldon, East Orange, N. J., assignor to Vacuum Oil Co., New York, N. Y. No. 1,800,964.

Receptacle for petroleum and the like—Harry F. Abrams, Garden City, and Edwin G. Into, New York, N. Y., assignors to Vacuum Oil Co. No. 1,800,975.

Storage-tank and automatic drain-valve therefor — John F. Patterson, Warren, Ohio, assignor to Warren City Tank & Boiler Co., same place. No. 1,801,172.

ADVERTISING PAGES REMOVED

New Federal Lube Specifications Use «Credit System» for Rating

CLEVELAND, April 22 A RATING system to be employed in specifying Class D lubricating oils for purchase by governmental departments is the radical departure in specifications recently circulated by the Federal Specifications Board for study and comment by the oil industry.

According to these tentative specifications, oils, to be acceptable, must pass the following requirements:

1. Viscosity grades are as in S. A. E. Designation (Table 1).

2. Tests listed "for passing," (Table 2).

3. Sligh oxidation number not higher than 40*.

4. Neutralization number not greater than 0.30.

5. Corrosion of a copper strip not more than "extremely slight" when tested for 3 hours at 212 F.

6. Oils Nos. S. A. E. 20 and S. A. E. 30 may be required to have a maximum pour point of 15 F.

In addition to passing these requirements, a system of credits has been formulated, by which all oils, after passing the above, must obtain at least four credits as indicated under the heading "For Credit" in Table 2, below. One additional credit will be allowed for each of the following:

Sligh oxidation number less than 20;

Neutralization number less than 0.10;

Viscosity at 130 F. which is not higher than the value given in Table 3 for an oil of the same viscosity at 210 F.

For instance, it is stated in the specification as an example, that an oil of 49 seconds at 210 F. will receive an extra credit only if its viscosity at 130 F. is not higher than 138 seconds.

*Possibility of revision of this requirement.

The specification further provides that each sample submitted to the department which is a prospective purchaser shall be labelled with the brand name of the product, and shall be accompanied by a report of tests made in the vendor's laboratory covering each requirement included in the specifications. Viscosities shall be reported both at 130 F. and at 210 F. All test methods are those included in Bureau of Mines Tech. Paper

Table 1

S.A.E. Number	Viscosity, Seconds, Saybolt Universal At 130°F Not Less Than	At 130°F Less Than	At 210°F Not Less Than	At 210°F Less Than
20	120	185	.....	.....
30	185	255	.....	.....
40	255	.....	.....	75
50	.....	.....	75	105
60	.....	.....	105	125
70	.....	.....	125	150

Table 2

S.A.E. Number	Minimum Flash Point For Passing °F	Minimum Flash Point For Credit °F	Maximum Pour Point For Passing °F	Maximum Pour Point For Credit °F	Darkest A.S.T.M. Color Number For Passing	Darkest A.S.T.M. Color Number For Credit	Maximum A.S.T.M. Carbon Residue For Passing %	Maximum A.S.T.M. Carbon Residue For Credit %
20	340	400	40	0	7½	5	0.60	0.10
30	350	410	40	0	8	6	0.80	0.15
40	370	425	40	5	6 dil.	7	1.00	0.25
50	395	445	40	10	7 dil.	7	1.40	0.40
60	425	475	40	15	8 dil.	8	1.70	0.70
70	460	510	40	15	8 dil.	8	2.00	1.00

Table 3

(To be Used Without Interpolation)

Viscosity, Seconds, Saybolt Universal

At 210°F	At 130°F	At 210°F	At 130°F	At 210°F	At 130°F
46	114	81	423	116	764
47	122	82	432	117	774
48	130	83	441	118	784
49	138	84	451	119	794
50	146	85	460	120	804
51	155	86	470	121	814
52	163	87	479	122	824
53	171	88	489	123	835
54	180	89	498	124	845
55	188	90	508	125	855
56	197	91	517	126	865
57	206	92	527	127	875
58	214	93	537	128	885
59	223	94	546	129	896
60	232	95	556	130	906
61	240	96	566	131	916
62	249	97	576	132	926
63	258	98	585	133	937
64	267	99	595	134	947
65	276	100	605	135	957
66	285	101	615	136	968
67	294	102	624	137	978
68	303	103	634	138	988
69	312	104	644	139	999
70	321	105	654	140	1009
71	330	106	664	141	1020
72	339	107	674	142	1030
73	348	108	684	143	1041
74	357	109	694	144	1051
75	367	110	704	145	1062
76	376	111	714	146	1072
77	385	112	723	147	1082
78	394	113	733	148	1093
79	404	114	744	149	1103
80	413	115	754	150	1114

No. 323B, except that for oxidation, which shall be made according to the method described in the A. S. T. M. Proceedings for 1927, vol. 27, part I, pages 461-468.

The accompanying tables include the additional requirements referred to above; the viscosity requirements are those adopted for the S. A. E. designations. Table 2 gives the margins for pour point, flash point, color, and carbon residue necessary to obtain extra credits under this system.

Alberta to Build Gasoline Plant

TORONTO — Announcement that the government of Alberta will build a semi-commercial experimental plant for the extraction of natural gasoline from the gas of the Turner Valley Field in Alberta, was made recently by the Hon. J. E. Brownlee, premier of Alberta.

It was stated that this course was determined upon at the conclusion of exhaustive experimental work carried out by Dr. E. H. Boomer of the University of Alberta on the development of a new process for the extraction of hydrocarbons of the natural gasoline range from natural gas. Details of the new process are lacking, but its results are said to be highly successful.

Harold B. Ward Heads Tulsa Purchasers

TULSA, April 23.—Harold B. Ward, purchasing agent for the Wilcox Oil & Gas Co., was elected president of the Tulsa Purchasing Agents Association at the meeting April 14. He succeeds W. R. Brown, of the Marathon Oil Co.

Mr. Ward was first vice-president of the association. To this position was elected H. D. Patridge of the Indian Territory Illuminating Oil Co. P. W. Fenton, Tidal Oil Co., was elected second vice-president, succeeding Glen H. Fagaines, Gypsy Oil Co. H. M. Cosgrove was re-elected secretary-treasurer and E. R. Welch assistant.

Mr. Brown, the retiring president, became a director in the

Harold B. Ward

National Association of Purchasing Agents and C. A. Prichard, of the Mid-Continent Petroleum Corp., was chosen alternate national director.

It is planned to have a good representation from Tulsa at the national meeting, to be held in Toronto, Canada, June 8-11. It is indicated that 20 or more will attend from the Mid-Continent.

Many Rocky Mountain Gas Lines Planned

CASPER, April 23.—Stage is all set for a big play in the natural gas industry in the Rocky Mountain region in 1931. Projects already authorized call for an outlay of $37,000,000.

Montana Power Co., Anaconda Copper Co., and Louis (Tip) O'Neil are planning to bring gas from Turner Valley in southern Alberta to Helena, Butte and Anaconda, taking in the Cut Bank field in Montana. This project will cost in the neighborhood of $18,000,000.

Ohio Oil Co. has started work on its line from Dyr Creek, southern Montana, to Bozeman and other towns in the Gallatin Valley. This project will cost about $2,500,000. Montana Dakota Power company plans to lay a line from the Lance Creek field, eastern Wyoming, to Newcastle, Weston and other towns in northeastern Wyoming. Estimated cost of this project is $1,000,000.

Montana-Dakota Power Co. plans an extension of its lines eastward from Bismarck, N. D., at an estimated cost of $4,000,000. North Central Gas Co., affiliated with Monroe interests of Chicago, will lay a line from central Wyoming into western Nebraska at a cost of $6,000,000.

Western Public Service Corporation (Ohio, Lone Star and Mellon interests) plans an extension of its system from Ogden, Utah, to Pocatello, Ida., at a cost of $2,500,000. Senator Arthur K. Lee and others plan a line from southwestern Kansas to Florence and Colorado Springs, Colo., at an estimated cost of $3,000,000.

Canada Reports 3.7% Automobile Gain

TORONTO, April 24.—Canada had 1,239,889 motor vehicles registered in 1930. Official figures have just been announced. This number was a gain of 44,295, or 3.7 per cent, over 1929 registrations.

The dominion has one vehicle for every 8 persons. The most thickly motor-populated provinces are Ontario with 564,669 vehicles and Quebec with 178,976.

Registration fees and mileage taxes amounted to $20,158,772 in 1930, a decrease of $2,352,701 from 1929 receipts. Gasoline tax receipts amounted to $22,667,712, an increase of $3,922,744. Tax receipts increased in all provinces except Alberta.

All provinces now have taxes of 5 cents per imperial gallon. The rate was increased from 3 cents a gallon last year in British Columbia, Saskatchewan, and Manitoba. Receipts by provinces were:

Prince Edward Island	$ 140,853
Nova Scotia	851,725
New Brunswick	659,797
Quebec	4,075,368
Ontario	10,756,836
Manitoba	1,099,778
Saskatchewan	1,538,556
Alberta	1,939,048
British Columbia	1,605,751
Total	$22,667,712

A bill to tighten gasoline tax collections has been introduced into the Quebec legislature by J. E. Perrault, minister of roads and mines.

The Detroit entrance of the auto tunnel to Canada. Note the gasoline pump under the canopy at the left

Detroit Auto Tunnel Typical of Trend Of Changing Highway Routes

DETROIT

"CITY To Build New Bridge Over River; Traffic Will Be Diverted From Business District." Such a newspaper headline typical of the trend to improve traffic routes is fraught with vital news for our industry.

To the oil marketer it means a study of new traffic conditions brought by highway changes in the light of new service station needs. Such improvements may mean a complete revamping of tourist routes through the city. Local motorists also may be diverted into new traffic channels. New stations may be needed along the changed route, while those on the old highway may become obsolete rapidly through diversion of traffic.

Highways are constantly being changed. Efforts are made to speed up traffic, to eliminate sharp curves and hazardous railroad crossings, and to relieve congestion. Bridges, tunnels, and super highways in the big cities are adding problems that oil marketers must consider in their selection of station sites.

Detroit is a case in point. For years the only means of crossing the Detroit river at this strategic point on our Canadian frontier, was by a ferry. Various schemes had been brewing for 60 years to build additional facilities. Then last year two projects were completed with the opening of both an auto tunnel and bridge over the river.

The bridge terminates in a residential section on the Canadian side and has diverted traffic to Goyeau street from Oeulette street. In anticipation of this traffic diversion Canadian oil companies several years ago sought available sites on Goyeau street. Four oil companies now have stations along this street from the business district to the bridge. Zoning regulations prohibit stations near the bridge district, and the closest station is about five blocks from the terminal.

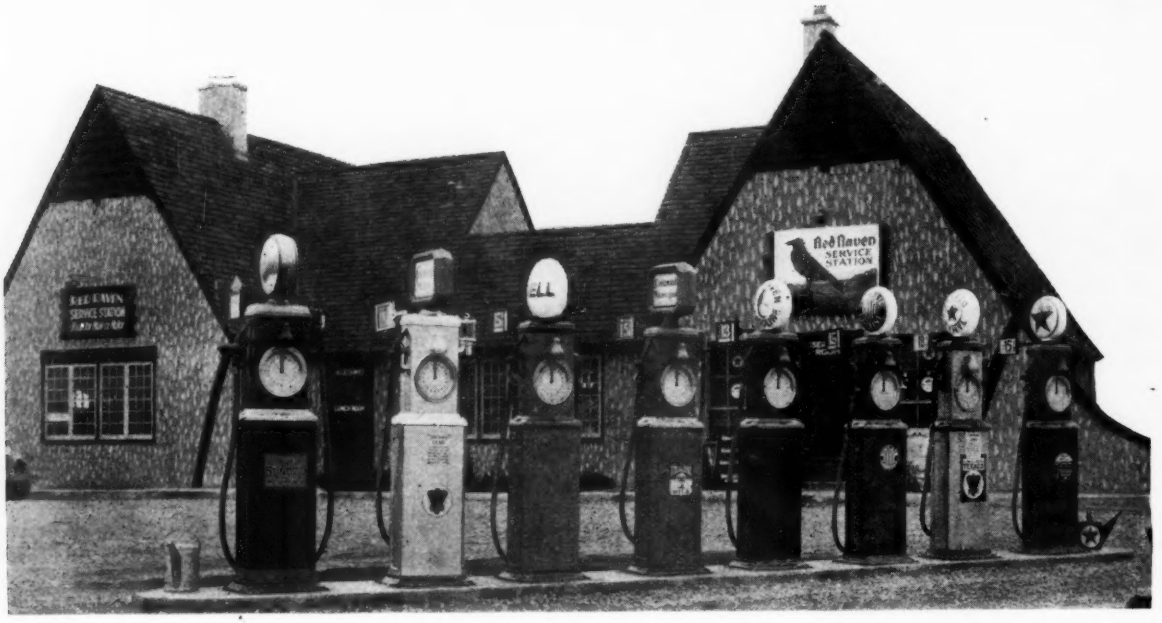
On the American side the bridge ends also in a residential district, about 20 blocks from the business section of Detroit. So far oil companies have not experienced any change in station locations excepting that one station has been built near the bridge for this traffic.

The auto tunnel terminates in the business districts of Windsor and Detroit. As the terminals are in highly congested, built-up districts oil companies so far have not built stations expressly for the purpose of servicing this traffic.

With the opening of the tunnel the oil companies found a new customer for gasoline and oil in the bus line operated for passenger traffic. The line extends from the Windsor terminal through the tunnel and ends in Detroit at Cadillac square. The fare is 10 cents for a single ride, or three rides for 25 cents. These busses are serviced by the company in its Windsor garage.

The amount of traffic diversion, on account of the tunnel, farther back in the cities probably will never be known. In Detroit, for example, there are six main traffic routes leading to the tunnel, bringing in traffic from Michigan, Chicago and

DEPENDABLE



Extra Service—Extra Accuracy at No *Extra* Price!

THE 1931 Buffalo Gasoline Meters because of mechanical improvements, offer a very definite *extra service*, and *extra accuracy* at no advance in price over 1930 models.

The new and improved 1931 model Buffalo Gasoline Meters give a new freedom from temporary variations. They give freedom from repairs. Their advanced design and engineering greatly increases the length of life and service of this new meter. But with all these improvements there is an absolute avoidance of any radical or untried principles.

It has always been the aim of the Buffalo Meter Company to keep just a step ahead of the requirements of large purchasers of gasoline meters. This new Buffalo Gasoline Meter, we believe—more than fulfills this aim.

BUFFALO

METERING

THE Buffalo Gasoline Meter offers a dependable, accurate meter service today, tomorrow and for many years to come. Their basic principles of design have been tried and proved by 39 years' continuous use. The 1931 model represents the latest refinements of skilled engineers who have concentrated their attention solely on this meter. With the fundamentally correct design and the novel exclusive improvements, the performance of the 1931 Buffalo Gasoline Meter is truly remarkable.

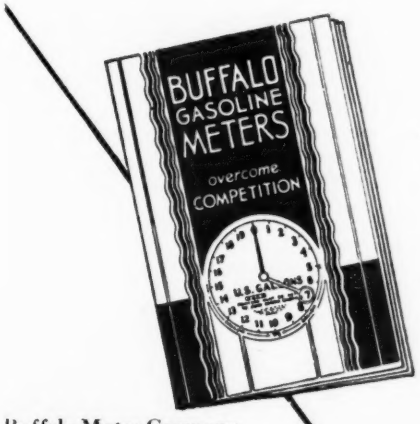
To demonstrate our belief in this new 1931 model we are anxious to have you give a stock model a thorough testing right in your plant laboratory. Gladly will we extend this privilege to any large purchaser of gasoline meters without any obligation whatsoever except to make a fair test.

Use the coupon below to secure a copy of the new Buffalo Gasoline Meter book entitled "Buffalo Gasoline Meters Overcome Competition." Or, better still, write and arrange for a demonstration of this new 1931 model right in your own laboratory.

The 1931 Buffalo Gasoline Meter retains its characteristics of positive displacement action, extreme simplicity and large capacity. It has every feature required on meters of this type, including the ultra-visible dial, covered total register and bell.

BUFFALO METER COMPANY

2889 MAIN STREET BUFFALO, N. Y.



Buffalo Meter Company
2889 Main St., Buffalo, N. Y.

Gentlemen:

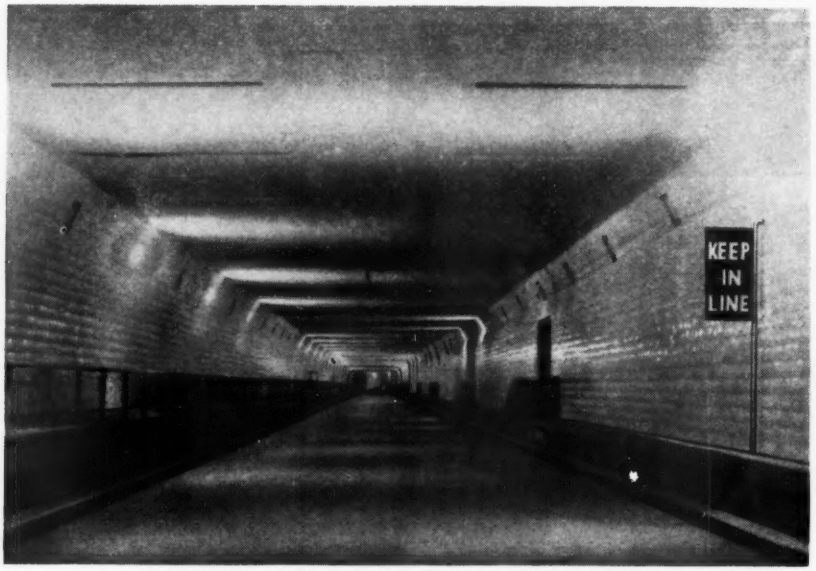
Please send me a copy of your new book entitled, "Buffalo Gasoline Meters Overcome Competition." I understand this places me under absolutely no obligation.

Signed.....

Firm Name.....

Street Address.....

City..... State.....



Interior of the Detroit-Windsor auto tunnel

the west, and from Toledo and the south.

As Detroit and Buffalo are the main points for entrance into Canada on the eastern end of the Great Lakes considerable traffic moves through these cities, both tourist and local.

The auto tunnel must move an average of 570 autos an hour to produce enough revenue to meet the interest charges and depreciation. Three years before the tunnel was built engineers made three surveys to estimate the probable traffic flow. The average daily traffic since the tunnel was opened Nov. 3 is about 26 per cent greater than the estimates.

The tunnel cost about $25,000,000. It is almost a mile long, and the average auto running time through it is three minutes. It was under construction for 2½ years.

At the entrance of both ends of the tunnel the company has installed a gasoline pump. In case a motorist runs out of gasoline while in the tunnel, a service car is sent in, donating two gallons to the stranded driver. This service car is used also for towing service, and can be driven from either end. A fire truck is kept at the tunnel also.

Guards are stationed in the tunnel about every 200 yards. They are on duty night and day to direct traffic. Emergency lights have been installed to control traffic; green lights allow autos to go, amber to proceed cautiously, and red to stop. Cars must be in gear and are not permitted to coast while in the tunnel.

All cars must keep in their lane. Speed is limited to 30 miles an hour in the tunnel and 20 miles on the approaches. Cars must keep 50 feet apart in the tunnel and 60 feet apart on the entrance and exit curves.

An elaborate system has been installed for changing the air. Fresh air is brought in under the roadway, and escapes through openings near the curb line. Foul air escapes through openings in the ceiling. It is claimed the air is changed every 90 seconds, and that it is purer in the tunnel than on Woodward avenue, Detroit's main business street, during rush hours.

The toll rates through the tunnel are 50 cents for a passenger auto and driver, and 5 cents for each additional passenger. Rates on motor busses vary from $1.75 for a 16 passenger vehicle to $3 for a bus with a capacity of 30 to 40 passengers; for each passenger exclusive of the driver the charge is 5 cents.

Motor trucks are moved through the tunnel at a toll charge ranging from 50 cents for empty small delivery trucks to $3.00 for 5 to 6 ton loaded trucks. All rates are reduced by purchasing ticket books.

Market for Liquefied Gases Expanding Rapidly

WASHINGTON, April 17.—Increased use of liquefied petroleum gases (propane and butane) the past year as domestic fuels, in territories not served by gas mains, resulted in a marketed production nearly double that of 1929. In 1930 18,000,000 gallons were marketed, compared with 9,931,000 gallons in 1929, a gain of 81.4 per cent, according to E. B. Swanson, chief petroleum economist, U. S. Bureau of Mines.

The 1930 sales represent a gain of 300 per cent over sales in 1928.

Distribution of propane in 1930 was around 11,500,000 gallons, and of butane, iso-butane, pentane and butane-pentane mixtures about 6,500,000 gallons.

The outstanding development in the use of butane, the bureau points out, has been the establishment of central stations in communities too small to support service of either manufactured or natural gas.

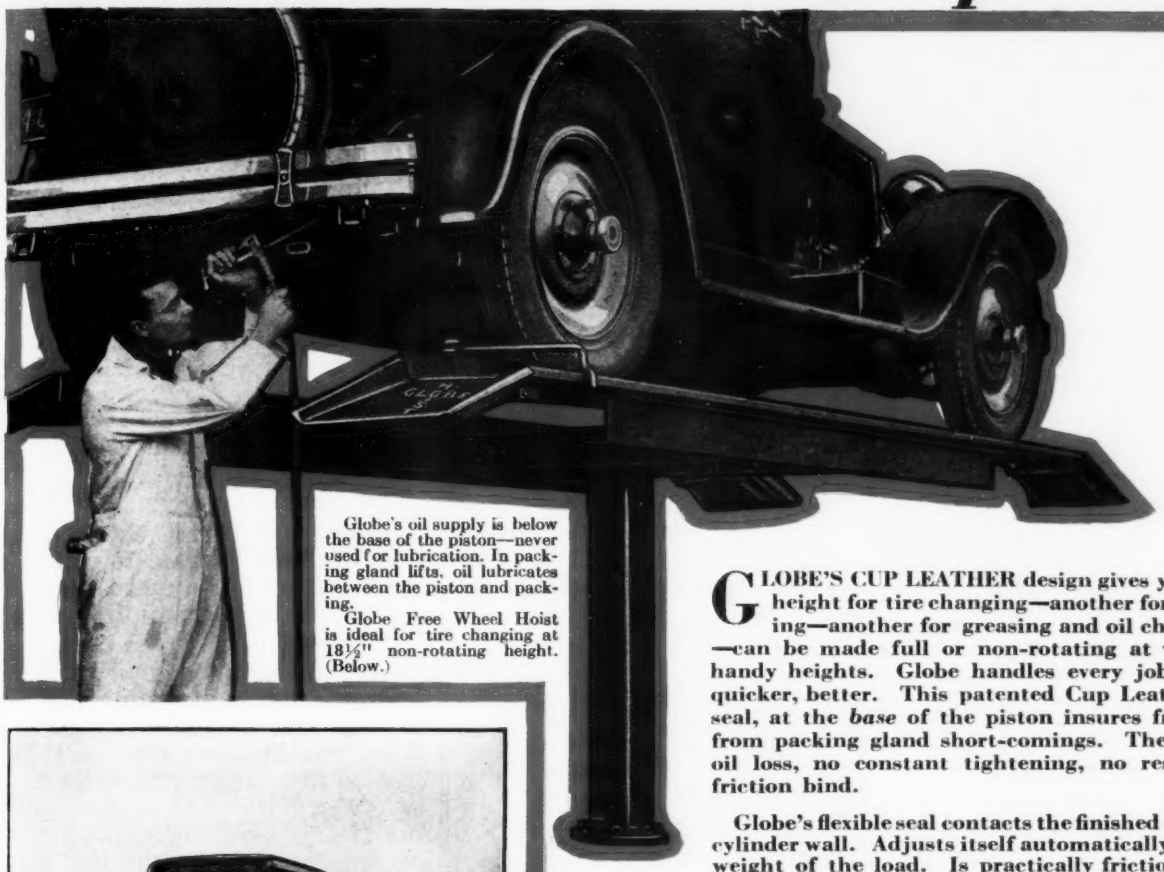
Butane and other liquefied petroleum gases are also being used to replace gas oil in carbureting gases of relatively low thermal value; as a base material for manufactured gases; and for the re-carburetion of gases to offset the loss of thermal value in high pressure transmission systems.

The marketed production of liquefied propane and butane gases from 1922 to 1930 inclusive was:

	Gallons
1922	222,641
1923	276,863
1924	376,488
1925	403,674
1926	465,085
1927	1,091,005
1928	4,522,899
1929	9,930,964
1930	18,017,347

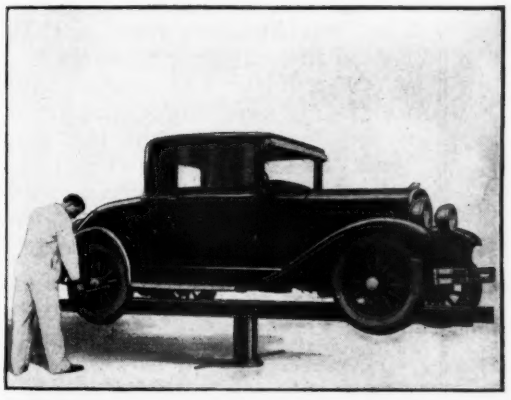
TORONTO—A pipeline to furnish natural gas from the Turner Valley, Alta. field to cities and towns of the prairies, is being considered by the government of Alberta. Financing would be done by government bonds, according to reports.

Service MORE CARS *per day*



Globe's oil supply is below the base of the piston—never used for lubrication. In packing gland lifts, oil lubricates between the piston and packing.

Globe Free Wheel Hoist is ideal for tire changing at 18½" non-rotating height. (Below.)



GLOBE'S CUP LEATHER design gives you one height for tire changing—another for washing—another for greasing and oil changing—can be made full or non-rotating at various handy heights. Globe handles every job safer, quicker, better. This patented Cup Leather oil seal, at the *base* of the piston insures freedom from packing gland short-comings. There's no oil loss, no constant tightening, no resultant friction bind.

Globe's flexible seal contacts the finished INNER cylinder wall. Adjusts itself automatically to the weight of the load. Is practically friction free. You'll find Globe easier on air—and freer from maintenance.

Globe can be installed at costs usually running well below 25 dollars. But one eight foot hole to dig. Oil below frost line insures year 'round operation. When building or remodeling, get the complete story about the many exclusive features of the Globe Cup Leather Principle. Just mail the coupon.

GLOBE MACHINERY & SUPPLY CO.
205 W. COURT AVE. — DES MOINES, IOWA

GLOBE *Auto* HOIST

REG. U.S. PAT. OFFICE

SAFER . . . QUICKER . . . BETTER

Globe Machinery & Supply Co., 205 W. Court Ave., Des Moines, Ia.
Please send details, Globe Auto Hoist and Cup Leather Principle

Name.....

City.....State.....

237

Advertising Contest Produces Large Mailing Lists

APPROXIMATELY 10,000 letters in four weeks! At least 50,000 folders placed in the hands of interested motorists in the same length of time!

Those are the results to date of the six weeks "Which One?" letter writing contest undertaken March 15 by the Mid-Continent Petroleum Corp. The contest will result, soon after May 4, in the distribution of $5,000 in 328 prizes ranging from $1,000 to $10, because the corporation's advertising department wanted to know whether to use the serious or the humorous type of advertising in 1931.

The contest without a doubt be classed as a success—even if no more letters were received in the next three weeks. But those letters will continue to come in by the hundreds daily, from all parts of the country, despite the fact that announcements of the contest were made only in the territory in which the company has its retail distribution.

Letter writing contests are not new by any means. But this one by the Mid-Continent corporation embodies some original ideas as far as oil company contests are concerned.

The groundwork was carefully laid before the announcements were made to the public. The advertising department sent folders to all divisions and dealers, outlining the entire program. Posters were supplied all stations. Hand-out folders also were furnished. These various pieces of advertising literature all carried the rules of the contest.

The announcement of the contest was made simultaneously in 18 metropolitan newspapers on March 15. Full page space was used in each paper.

Another important beforehand preparation was the simplicity of the rules of the contest. Attention was called to the hand-out folders which could be obtained at "Diamond" stations. These folders carried the advertisements which were to appear in the newspapers in connection with the contest.

Contest rules did not require a contestant to use Diamond products before a letter could be submitted. All the contestant was required to do was to help the advertising department decide which type of advertising was the more effective.

But, before the contestant could write that letter, he had to read both advertisements. And in reading those advertisements, he either consciously or unconsciously obtained the story of Diamond products. And that is what the advertising department wanted him to do. The story had been told.

The advertising department did not stop there. It was not satisfied with the mere reading of the advertisements by the contestant.

When each letter was received, the name and address of the contestant was listed. The original list was sent to the multigraphing department, where a letter was sent out immediately over the signature of a vice president that the contestant's letter had been received, would be given consideration, and thanking the contestant for taking an interest.

Copies of this list were sent to each division office, where the names in that division's territory were relisted, then broken down into district lists. District supervisors were furnished with lists of names in their districts, and these lists in turn were supplied to salesmen, who made personal calls on the contestants.

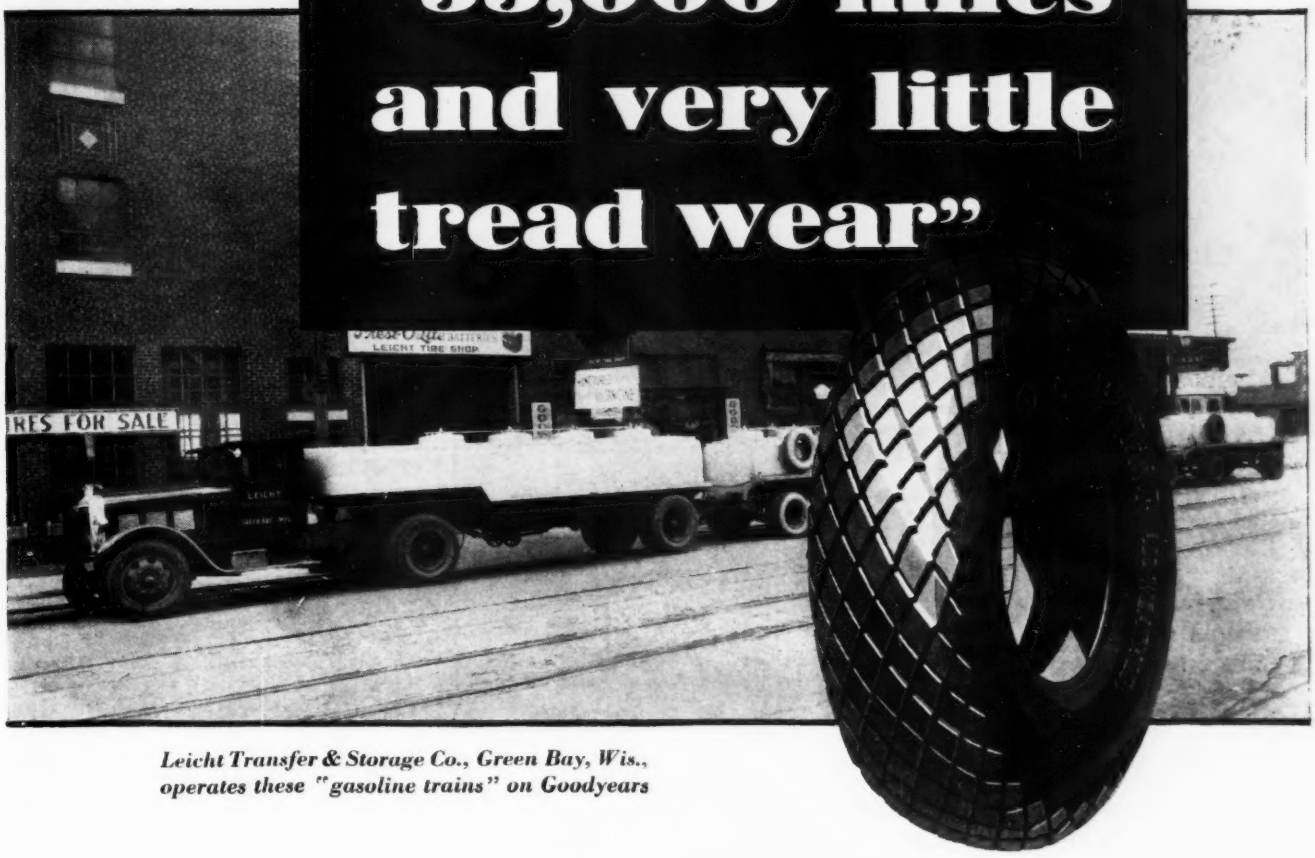
No sales talks were made at these calls. Far from it. The salesman merely told the contestant that the "home office" had notified him the contestant had submitted an excellent letter, and wished him to thank the contestant personally for the letter, and for the contest-

Automatic Valve Cap and Core Dispenser

THIS is a recently designed automatic dispensing machine for the sale of valve caps and valve insides at the oil company service station. Two caps or two cores are delivered to the customer when he inserts a dime in the slot. Insides are on one side and caps on the other.

The dispensers are attached to the air scales or air standard where they cannot be missed by the motorist when he is inflating his tires and in the best position to observe his needs. At average stations where the dispensers have been tried out sales have been running about $2 per week. Dispensers are made by the Dill Manufacturing Co., Cleveland, Ohio.

"33,000 miles and very little tread wear"



Leicht Transfer & Storage Co., Green Bay, Wis., operates these "gasoline trains" on Goodyears

If you could look at the actual photograph from which the above picture was made, you could clearly see the sharp-edged blocks of the famous All-Weather Tread on these tires.

"We are hauling gasoline in 5,000-gal. lots," says a letter from this operator of truck and trailer tank units, "in addition to the wonderful mileage that these tires have given us, we find that they save the equipment very much as they are so very easy riding. To date these tires have given us 33,000 miles and there's still plenty of tread."

Reports from the oil fields give these Goodyear Truck Balloons credit just as great for traction—they pull their loads through where there are no roads.

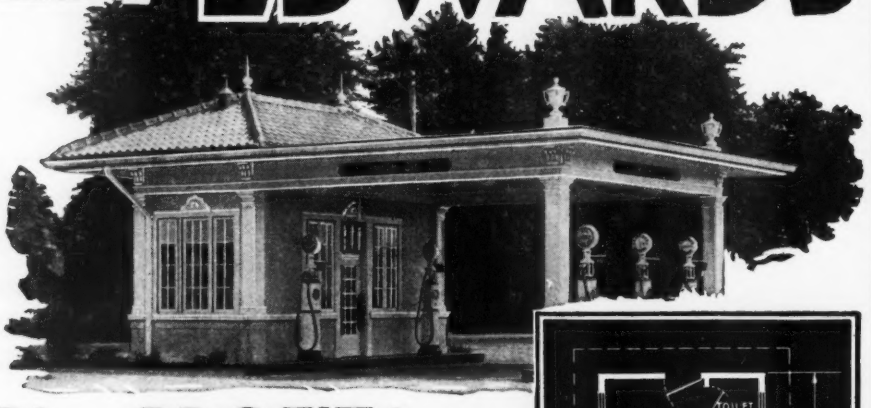
Why don't you get in touch with a Goodyear Truck Tire Service Station Dealer and ask him what these new balloons can do for you?

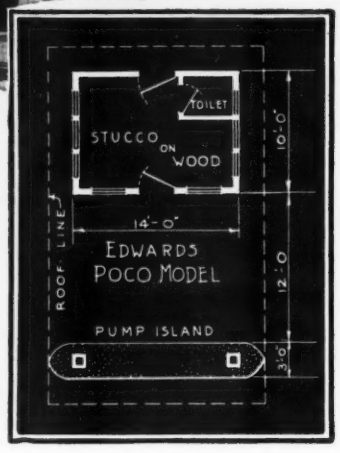
ON YOUR NEW TRUCKS SPECIFY GOODYEARS

GOODYEAR

MORE TONS ARE HAULED ON GOODYEAR TIRES THAN ON ANY OTHER KIND

LET EDWARDS





Plan PROFIT into *your* Filling Station

Make every square foot of your filling station pay. Edwards engineering and architectural staff has over thirty years of practical specialized experience to place at your disposal, without charge!

The above beautiful Poco Model is just one of the many practical, attractive Edwards Filling Stations, Garages, Hangars, Parking Lot Buildings, etc., that establish you permanently and profitably for a surprisingly small investment. Easy to erect at low cost, can be added to as needed . . . positive fire protection.

EDWARDS METAL SPANISH TILE ROOFING

. . . is the crowning glory of the above beautiful Poco Model. This massive metal roofing is ideal for all types of buildings and architectural effects . . . canopies, pump shelters, etc. Get our prices.

Send lot dimensions and requirements for detailed plan. Write today.

THE EDWARDS MANUFACTURING CO.

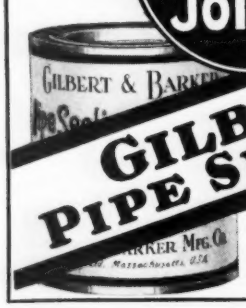
524-544 Eggleston Ave. Cincinnati, Ohio

FOR TIGHTER JOINTS

Three Handy Sizes:

⅛ pint	15c
1 pint	75c
1 quart	$1.45

(Postage extra)



GILBERT & BARKER PIPE SEALING COMPOUND

Leaks in gasoline pipe lines can be serious. Use Gilbert & Barker Pipe Sealing Compound. Makes every coupling, tee or elbow tight as a weld. No stock losses. No costly overhauling. Approved by Underwriters.

Order direct from GILBERT & BARKER MFG. COMPANY, SPRINGFIELD, MASS.

ant's interest in the company and its products.

The letters come in from all points of the country, and in almost every form imaginable. Some are in the form of advertisements, some in the form of folders. Some are from laborers, others from executives of nationally known companies. And, incidentally, the advertising department has received several inquiries from advertising heads of other companies asking for full details and the success obtained.

The letters will be turned over to the judges, May 4. The prize winners will be announced as soon as possible after that date. The prizes will be awarded—and the company will have told its story to countless thousands, and will have an excellent mailing list in its territory.

Firestone Injects Price Comparisons Into Ads

CLEVELAND, April 23.—Price comparison has been thrust into the advertising of tires by the Firestone Tire & Rubber Co., Akron. Recent magazine and newspaper advertisements of Firestone also contain construction and dimension comparisons.

The comparisons are made between Firestone second and third line tires and "special brand mail order" tires, which are described as being "made by a manufacturer for distributors such as mail order houses, oil companies, and others, under a name that does not identify the tire manufacturer to the public, usually because he builds his first line tires under his own name. Firestone puts his name on every tire he makes."

C. J. Tagliabue Mfg. Co., Park and Nostrand Aves., Brooklyn, N. Y., manufacturer of indicating, recording and controlling instruments, on April 1 moved its Pittsburgh, Pa., offices into new and larger quarters in the Park Bldg. Larger stocks will be carried henceforth at the Pittsburgh branch. The office and territory remain in the hands of E. D. Wacker, district manager, and W. A. Stoeltzing.

Why Service Station Commercial Accounts Are Unsound and Should be Stopped

By R. B. Hammond

A RECENT article by Mr. R. D. Leonard of the Atlantic Refining Co., on the subject of commercial prices at service stations, is of such importance that I believe considerable more than contained in the article can be said of this phase of marketing.

While the article in question was requested, I wonder if an article from one occupying a much less position in the industry, albeit from one whose duties as district manager, constantly bring him in touch with this practice, and I believe the other side of this question is of sufficient importance to merit publication regardless of the source of any such opinion.

It will be noticed an attempt is made to reconcile the present practice at service stations, by the fact, that originally a concession was made to this type of business, equal to that of dealers who purchased for resale when the delivery was made by tank wagon.

Concessions to commercial business when made by tank wagon delivery is, I believe, economically sound. It costs marketing companies no more to make this delivery than to dealers either in the actual delivery or the accounting work involved.

Loads are usually sufficiently large to make the delivery profitable, likewise remittance for this business is usually prompt. Also these deliveries are of such regularity that they can with little trouble be worked right in with the regular tank wagon route.

A tank wagon delivery to a commercial account is exactly the same as a delivery to an ordinary dealer, requiring no added expense, and if delivery equipment is operated intelligently this class of business will result in profit to the marketer, but most important is the fact, that deliveries of this type to commercial business will go a long way to eliminate from the industry, one of its most serious problems.

Now, however, we come to the service station delivery, which, with the fartherest stretch of the imagination, can in no way be justified by the past practice of truck delivery. The reason for the concession in one case will not hold for the other. True the volume of the commercial account is larger than the individual car owner, however, consider the difference in the type of service required.

The previous article on this subject stated that this type of business did not require as much service as the individual. I am of the opinion that it requires more and of a far different type of service, a type that usually reacts badly for the station.

COMMERCIAL customers often continually patronizing a station, become familiar to the extent of assuming liberties that have a very bad effect on any station. This equipment usually of a large size, pulls into the driveways to make minor repairs, perhaps assuming they are entitled to this freedom due to the volume of their business and more often than not expecting the operator to lend whatever assistance is necessary.

It requires more air and more water to service this type of equipment, consequently they are in the driveway longer, perhaps hindering the proper service to the individual car owner, whose gallonage is smaller, but who permits more profit and usually pays cash. I believe the actual profit of the station depends largely on the latter customer, whose service is often sacrificed to serve the commercial customer whose business merely means volume.

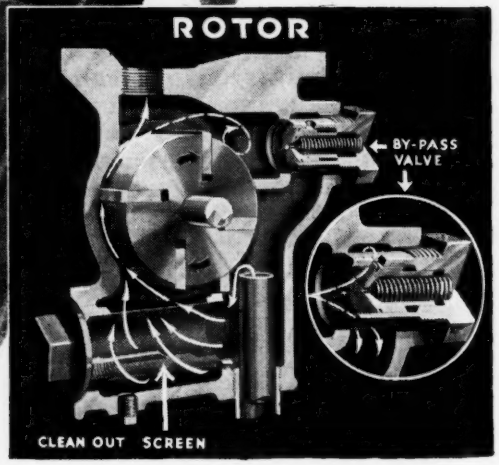
There is still another angle, aside from the actual servicing, against this type of business at service stations. Consider for a moment the tremendous amount of extra accounting required to properly handle this business.

IT IS necessary that each delivery be itemized to each piece of equipment, in a manner keeping the cost records, in part. In the event of errors in billing, there is usually endless correspondence and controversy, resulting in exorbitant cost to maintain this type of business. In view of the extra service and extra accounting, provided to commercial business by service station delivery, it is not too much for oil companies to expect compensation for this added service, by at least receiving the market price for their product.

I have thus far discussed this phase of marketing from purely an economical standpoint, and there is another angle, far reaching, I believe in its reaction. This angle is the effect of this practice by major companies on the independent dealer. One of the greatest objections to this practice is, I believe, the amount of the concession allowed, which is seemingly unlimited, running anywhere from 2 to 5 cents per gallon. It seems to be the practice to go just as far as is necessary to procure a desirable piece of this business.

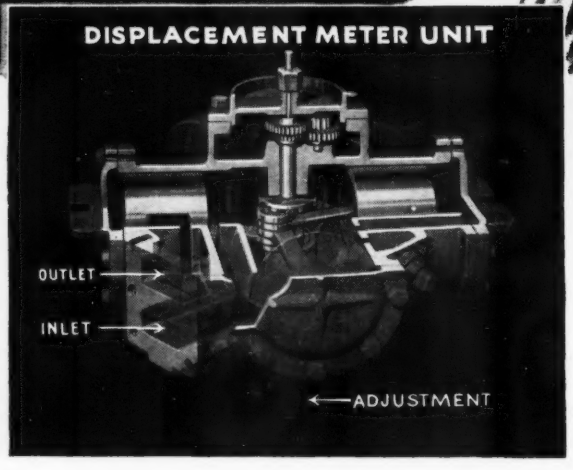
The independent dealer with his limited margin is unable to

With the Times the . . . as



Cut-Away View of Pumping Unit

NOTE THE SIMPLICITY OF BOTH ROTOR AND BY-PASS VALVE DESIGNS. THE PATENTED BY-PASS VALVE PREVENTS OVERLOADING: BANISHES NOISE; ELIMINATES APPRECIABLE CURRENT VARIATION WHETHER NOZZLES ARE OPEN OR CLOSED; AND REDUCES CURRENT CONSUMPTION.



THE BENNETT POSITIVE DISPLACEMENT METER IS OF ALL-METAL CONSTRUCTION. PISTONS ARE OF LIGHTWEIGHT ALUMINUM ALLOY. CYLINDER WALLS ARE OF SOLID BRONZE. ALL OTHER WORKING PARTS ARE OF STAINLESS STEEL. PROLONGED TESTS HAVE PROVED THAT THIS NEW METER IS ACCURATE UNDER ALL OPERATING CONDITIONS.

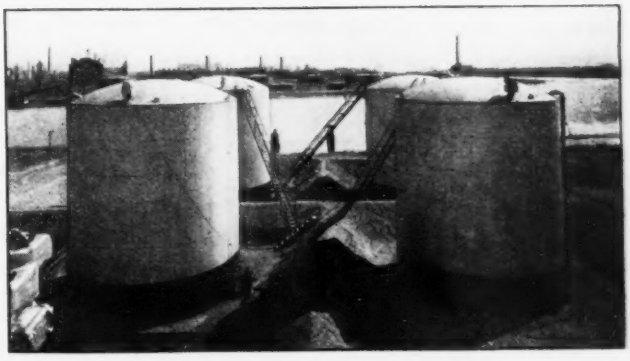
ADVERTISING PAGES REMOVED

compete for this business on this basis, and of course must resort to the smaller business and to the business who is satisfied with 1 or 2 cents concession. Why has he not as much right to give 1 or 2 cents to a man driving 2 or 3 cars as the major company has to 3 or 4 cents to the commercial customer operating four or five trucks. This, of course, reacts in our current price wars throughout the country causing so much loss to the oil companies.

Likewise in the battle for commercial business, too often the imagination is stretched beyond reason in bringing certain business into the classification of commercial business, and usually concessions are given on the most flimsy excuses. Commercial prices are acknowledged to be one of the most serious problems today, and I believe it could be eliminated if it were required that in order to procure commercial prices, this type of business be required to purchase and install equipment to purchase gasoline from tankwagon, resulting in one service station price only.

John A. Stumpf, for the past 8 years in the gasoline sales department of the Henry H. Cross Co., Chicago recently resigned to accept a position with the Chicago Oil Marketing Co., Chicago. Prior to joining the Cross Co., Mr. Stumpf was connected with the Indian Refining Co., Lawrenceville for about 14 years

Four 5,000 bbl. Horton gasoline storage tanks at Sherwood Bros., Inc., bulk station in Philadelphia, Pa.



WHAT

gasoline storage does for you

GASOLINE storage capacity in Horton tanks gives you the advantage over less fortunately equipped competitors by

—enabling you to take distress stocks at bargain prices.
—making you independent of uncertain deliveries.
—enabling you to store gasoline for Summer demand.

Oftentimes the extra income from the storage is sufficient to pay the storage cost in a short time.

We furnish field-erected tanks at any location and cylindrical tanks for shipment from our Birmingham, Alabama plant. Field erected tanks may be equipped with Wiggins Roofs, to reduce evaporation loss and fire hazard.

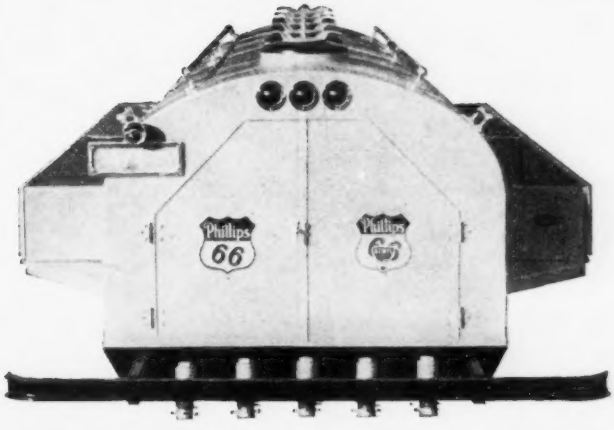
Write our nearest office for quotations and data on Horton tanks and Wiggins Roofs.

CHICAGO BRIDGE & IRON WORKS

Cleveland	2206 Midland Bank Bldg.	Dallas	8339 Magnolia Bldg.
New York	3145 Hudson Terminal Bldg.	Houston	1118 Electric Bldg.
Philadelphia	2614—1616 Walnut St. Bldg.	Tulsa	2407 Exchange Bank Bldg.
Boston	1516 Consolidated Gas Bldg.	San Francisco	1060 Rialto Bldg.
Chicago	2125 Old Colony Bldg.	Los Angeles	1322 Subway Terminal Bldg.
Detroit	1513 Lafayette Bldg.	Seattle	4324 Smith Tower
Birmingham	1534 Fiftieth St., N.	Havana, Cuba	Apartado 2507

HORTON TANKS

NPN 4-29 Gray



Leader All-Steel Truck Tank

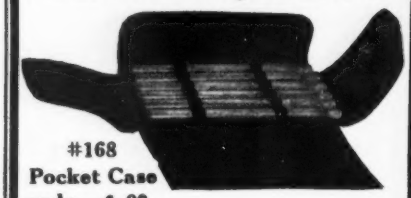
—with steel underframe, sills and bolsters; steel bucket box and steel can racks; separable compartments; tank and piping unit independent of mounting; all welding by electric arc process; beautifully finished and serviceable *"until the steel itself wears out".*

SEND for Bulletin 102-T or write for more information.

LEADER IRON WORKS, INC.

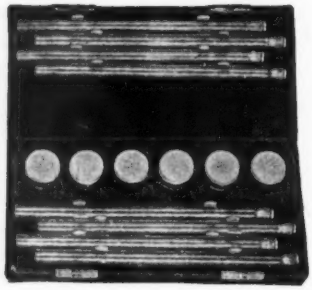
2112 NORTH JASPER ST. DECATUR, ILLINOIS

Pocket Sample Cases



#168 Pocket Case only 4.00

Sturdily constructed from black cobra grain cowhide. Lined with red plush. Contains six bottles. 9"x3½".



175—This case contains eight 9-inch bottles and six grease jars. Made from black cobra grain cowhide, lined with red plush. Has two serviceable nickel slide catches, price including metal capped corks, only..... $7.00

Less 10% for Cash

Other styles in our FREE Catalog

L-U-C-E

Builders of Sales Luggage

614 Delaware Kansas City, Mo.

Keeps storage tanks spic and span

KEEP your storage tanks clean and good-looking. The job is easy and inexpensive when done the Oakite way.

Regular washing down with a solution of an Oakite material removes every trace of oil and dirt. The original freshness of painted surfaces is restored. Longer protective life of the paint is assured, affording substantial savings.

Have an Oakite Service Man give you the facts about this and other money-saving Oakite cleaning methods. Write us and he will call. No obligation.

Oakite Service Men, cleaning specialists, are located in leading industrial centers of U. S. A. and Canada.

Manufactured only by

OAKITE PRODUCTS, INC.

42C Thames St., New York, N. Y.

OAKITE

Industrial Cleaning Materials and Methods

ON THE LAZY BENCH

Gusherville News, successor to Pete's Marketgram, edited by Pete Roleum (Myers Gross, Vickers Petroleum Co.) suggests this program for an oil jobbers convention:

Orchestra selection: "The Code Was Meant for You." By a Major Company.

Short Talk: "Things Aint Oil Right." By a Jobber.

Song: "We Write Our Figures in Red." By Refiners Glee Club.

Intermission

(Audience will be aroused from slumbers).

Insomnia Club goes into session. No particular place. Follow-in will be brought before meetin in various meetin rooms. Length of meetin dependent on endurance.

Poker Talk: "How to Handle A Queen Full." (This has no reference to playin cards).

Golf Talk: "Making Seven With One Dice." By some memmer of the baggy knee club.

Poultry Talk: "A Chicken in the Coupe is worth 2 on the curb." By One Who Knows.

History Talk: "Was the Battle of the Sedan a pettin Party?" By a Young Jobber.

Censored from here on out. Conclusion??

* * *

Pearls might come from oysters, but some girls get diamonds from nuts.

—The Gas Line
West Penn Oil Co

* * *

Asking a Lot

Bud Waller (Gulf Publishing)—"So I've got to have an anaesthetic. How long will it be before I know anything?"

Doctor—"Now don't expect too much of the anaesthetic."

—The Unloading Rack
A. Y. McDonald Mfg. Co.

* * *

Clara: "You may believe it or not, but I said 'No' to seven different men this summer."

Maude: "Oh, I don't doubt it. What were they selling?"

—The Gas Line
West Penn Oil Co.

Epitaph

Here lies a man who saved his all
For days when the rain and snow should fall;
He knew no pleasure, shared no game—
And died before the blizzard came.

—The Gas Line
West Penn Oil Co.

* * *

"What's your business?"

"Serving the I. W. W."

"Yeah?"

"Sure; the motorist who is seeking Information, Wind and Water."

—The Oil Can
Illinois Petroleum Marketers Association

* * *

Convincing

A country gentleman was saved from conviction for horse stealing by the powerful plea of his lawyer. After the trial, the lawyer asked: "Honest, Bill, you did steal that horse, didn't you?"

"Now listen here, Judge," he replied, "I allus thot I stole that hoss, but after I heerd your fine speal to the jury, I'll be dogoned if I ain't got my doubts about it."

—The Gas Line
West Penn Oil Co.

* * *

The Bore: "I was just telling a world traveler some of my own adventures, and you may believe me, sir, he heard me with his mouth wide open."

The Sufferer: "To be sure! And his hand was in front of it, no doubt."

—Our Sun
Sun Oil Co.

* * *

An Old Story

Employee—"I've been here for four years and am doing three men's work for one man's pay. Now I want a raise."

Frank Watts (Humble)—"I'm sorry, I can't give you a raise right now but tell me who the other two men are and I'll fire them."

—The Unloading Rack
A. Y. McDonald Mfg. Co.

New Gasoline Tax Law Expected to End Bootlegging in Oklahoma

By Allen S. James

N. P. N. STAFF WRITER

Staff Special

TULSA, April 18

RIGID enforcement of the new Oklahoma gasoline tax enforcement law, which becomes effective July 1, will throw a heavy bookkeeping burden on oil companies, railroads and the Oklahoma Tax Commission, but will make evasion of the taxes an unpleasant move.

The gasoline "bootlegger" who has existed heretofore because he evaded payment of taxes under one guise or another, and cut prices, will find those tactics far from advantageous. The practice of hauling gasoline in tank trucks from refineries, located either in Oklahoma or adjacent states, for the purpose of evading the tax will be checked.

The only flaw so far evident is the continuance of the agricultural exemption in such form that evasion of taxes may be possible to a certain extent, but even that practice will be curtailed considerably.

The cost of enforcing the law will be considerable, but ample provision has been made. The Oklahoma Tax Commission will assume the task, and will receive 2 per cent of the gasoline tax money collected. With the 5-cent tax now in force, tax experts estimate the state will receive approximately $16,000,000 this year, and 2 per cent of that amount would give the commission $320,000 for enforcement expenses. Wise expenditure of that sum would provide a large police force, according to oil company executives who have followed the progress of the bill.

The law as passed appears to be a conglomeration of sections from laws in other states, but contains teeth.

Under the law every gallon of motor fuel shipped into the state for distribution, and every gallon refined or blended in the state and distributed within its borders, will be accounted for through various reports.

Refiners within the state must report each sale within five days, giving full details, including the quantity, the car initials and number, if car shipment is made, date of shipment and name and address of consignee.

Whenever a sale is made by a seller of motor fuel in the original package or container in which the fuel was shipped into the state, the seller is required to deliver to the purchaser an invoice, stating the name and address of the seller and of the purchaser, the quantity of fuel sold and whether or not the seller assumes and agrees to pay the taxes. A copy of this invoice must be sent by the seller to the tax commission at the time he makes the sale.

In the event the seller does not assume the tax on the fuel sold, the purchaser must before the 15th day of the calendar month following the month in which the sale was made, send to the commission a statement showing the quantity of motor fuel purchased, showing the name and address of the purchaser and of the seller, the kind of container in which it was received, the name of the carrier by whom it was transported, and at the same time must remit to the commission the taxes on such motor fuel.

THAT information will give the commission a two-way check with reference to the sales of the fuel. But the law goes further. Every railroad company or common carrier, or privately owned tank wagon or tank truck delivering motor fuel to any consignee within the state is required to make a report of the delivery upon blanks to be furnished by the commission for that purpose.

These reports must be made on or before the 15th day of the month following the sale, showing description of the tank, car, truck or other conveyance in which the fuel was transported, in and during the preceding month. The reports must show the points of origin and destination, the number of gallons of motor fuel transported, the date of delivery and the name of the consignor and of the consignee.

THAT just about covers all shipments within the state. But there is another provision in the law which will make the tank wagon drivers more cautious. Anyone who transports the motor fuel over the highways for delivery to a retailer or retail dealer must, at the time of delivery, also deliver to the retailer a statement showing the name of the seller, the name of the retailer purchasing or receiving the fuel, the quantity, the ownership and location of the tank or other container from which it was taken for transportation to point of delivery. A duplicate of this information must be sent to the tax commission.

Tank wagon drivers will have to have with them, therefore, complete data with reference to the fuel they are hauling. If an inspector, for instance, should stop a tank truck driver anywhere on the highway and want to see the records on the gasoline he is transporting, the driver will have to produce those records at once, or face prosecution. That, it appears,

will eliminate the trucking for tax evasion purposes.

The law not only makes the seller liable to conviction who does not make the proper reports as outlined, but also makes liable to conviction any person accepting the fuel without at the same time receiving the papers required.

There is an overlapping in the definitions of "distributor" and "retailer" or "retail dealer," but that probably will be cleared up by the tax commission, under its authorization to make reasonable rules and regulations for the administration and enforcement of the law.

Oil companies will have to be careful, however, to whom they sell motor fuel. The law provides for a licensed distributor and an unlicensed distributor.

A licensed distributor is required to procure a license and post a bond of $3000. That distributor can buy his motor fuel from a refiner or any other person and assume payment of the tax, provided it is so stated on the invoice, copy of which is sent to the commission.

A seller is permitted to make a sale to a licensed distributor and let the purchaser pay the tax. But the law prohibits a seller—refiner, broker or licensed distributor—from selling to a person who does not have a license, unless the seller specifically states on the invoice that said seller assumes payment of the tax. A seller, in other words, cannot pass the tax payment on to a person unless that person has a license and has posted the $3,000 bond. There can be no guesswork about the matter.

Then comes the "record" section for filling stations. This section requires the manager, operator or attendant in charge of any filling station or service station handling, selling or otherwise disposing of motor fuel, whether he be the owner of the station or not, to keep in the station, subject to the examination of any agent of the commission, a true account of all motor fuel received at the station, showing not only the quantity of each delivery but also the name of the consignor, names of the owner and driver of the truck or other conveyance making the delivery, the license number of the truck or other conveyance, the point of loading or shipment, the date and time of delivery, "and such other information as the Oklahoma Tax Commission may require." These records must be kept for two years.

Another provision requires the seller to state on the invoice the true name of the product, "as it is commonly or commercially known," and no purchaser will be permitted to accept the product without demanding and receiving the invoice describing the product in its true name. This will eliminate the practice of shipping "60-62 gravity kerosine" to the "bootlegger."

When motor fuel is purchased for agricultural purposes the buyer will receive his fuel tax free, and will also obtain from the seller an invoice or ticket showing the number of gallons bought, the purpose for which it is intended to be used, the date and place of purchase, name of seller and name of purchaser, name of agent or employe making purchase, manner of delivery and place of delivery, and the ticket must show the deduction of the tax. This ticket must be made at time of purchase. The seller may deduct the gallonage sold for agricultural purposes in a subsequent payment.

John McNeil

With such a loophole it would require an enormous force to police all the farmers in the state, to ascertain how much motor fuel purchased actually was used for agricultural purposes.

The law definitely stops municipalities, school districts, associations and other organizations from obtaining motor fuel tax free. Provision is made for collection through suit of any taxes not paid by a city or municipality. Under the old law school districts operating busses could obtain exemptions, and cases have been known of dealers claiming exemption for quantities of gasoline sold to the school districts far greater in volume than the busses of those districts could have consumed in a month.

No deduction is permitted for evaporation, leakage or other loss. A former law allowed 3 per cent deduction for such losses, but the new law states that "the manner of care or allowance for loss in handling motor fuel has been considered, and no deduction shall be made for, or on account of, evaporation, leakage or other loss in calculating the tax due. . . ."

Infractions of the law will be listed as misdemeanors, and "upon conviction, shall be fined not less than $100 nor more than $1000 for each offense," and in some instances the clause "or shall be sentenced to jail for a term not exceeding one year" also is included.

John McNeil Promoted By Imperial Oil

TORONTO—John McNeil, assistant general sales manager of Imperial Oil Ltd., Toronto, has been promoted to succeed F. J. Wolfe, recently appointed managing director of Anglo-American Oil Co.

Mr. McNeil began as an employe of a local oil company in Toronto, which was absorbed later by the Canadian Oil Co. He was sent to Halifax then to the Winnipeg office. Here he joined the Imperial Co.

In 1914 he was transferred to Sarnia in charge of light oil sales. He was later made manager of white products at Toronto under F. J. Wolfe, whom he now succeeds.

Crude Production by Fields

By Telegraph—Daily average gross output, by fields in U. S., for week ending with dates below as compiled by A. P. I.

PRODUCTION SUMMARY

	April 25	April 18
Production east of Rockies	1,894,500	*1,895,100
Decrease		600
Total production in U. S.	2,422,600	2,422,000
Increase		600
Crude oil imports	66,855	139,145
Decrease		72,290
Total new crude supply	2,489,455	2,561,145
Decrease		71,690

*Erroneously reported as 1,795,100 last week.

OKLAHOMA

	Apr. 25	Apr. 18
Allen Dome	12,400	12,750
Asher	700	700
Asher, West	7,450	6,950
Blackwell	2,900	2,850
Bowlegs	14,900	14,050
Braman	1,850	1,850
Bristow-Slick	11,950	12,000
Burbank	12,900	12,800
Carr City	12,500	13,100
Cromwell	4,800	4,800
Cushing	13,050	12,700
Davenport	900	950
Duncan Dist.	6,500	6,550
Earlsboro	18,700	18,850
Earlsboro, East	17,800	19,800
Earlsboro, So.	6,300	6,950
Garber	4,000	4,000
Graham	4,150	4,100
Healdton	10,500	10,550
Hewitt	6,050	6,100
Hubbard	950	950
Konawa	10,700	8,400
Little River	24,300	23,500
Little River, East	6,050	6,400
Logan Co.	3,650	3,850
Maud	2,650	2,450
Mission	9,450	8,750
Oklahoma City	150,350	192,750
Okmulgee, No.	9,200	9,200
Okmulgee, So.	5,000	5,000
Osage (Outside Burbank)	21,500	21,700
Papoose	2,050	2,050
Pearson	550	550
Sasakwa	2,350	2,800
St. Louis	24,000	21,350
Scholem-Alechem	13,050	12,900
Searight	4,150	4,500
Seminole	13,400	13,500
Seminole, East	1,900	1,900
Thomas	600	600
Tonkawa	6,250	6,200
Wewoka	8,550	8,550
Yale-Jennings	6,100	6,100
Others	48,250	48,750
Total, Okla.	545,300	585,100
Decrease		39,800

KANSAS

Augusta-Fox Bush	2,850	2,900
Churchill	3,100	3,100
El Dorado-Towanda	12,450	12,200
Florence-Covert	750	700
Greenwood Co.	16,300	16,300
Oxford	2,200	2,200
Peabody-Elbing	1,750	1,500
Rainbow Bend	1,400	1,400
Russell	3,000	3,000
Sedgwick Co.	17,650	17,750
Voshell	16,700	17,300
Others	31,600	31,700
Total, Kans.	109,750	110,050
Decrease		300

NORTH LOUISIANA

Caddo, light	7,300	7,450
Caddo, heavy	2,800	2,800
Cotton Valley	1,750	1,750
De Soto and Red River	2,700	2,650
Haynesville	6,000	5,950
Holly	550	550
Homer	3,300	3,300
Sarepta		
Carterville	1,250	1,250
Urania	4,500	4,500
Zwolle	7,500	7,300
Others	1,500	1,550
Total, N. La.	39,150	39,050
Increase		100

ARKANSAS

Champagnolle	2,950	3,000
El Dorado	3,650	3,700
Lisbon	750	750
Nevada	1,000	1,000
Smackover, light	4,100	4,150
Smackover, heavy	31,850	32,100
Stephens	850	850
Others	1,650	1,400
Total, Ark.	46,800	46,950
Decrease		150

ROCKY MOUNTAIN

Wyoming

Big Muddy	1,950	2,300
Elk Basin	650	750
Grass Creek	2,050	2,150
Labarge	1,400	1,000
Lance Creek	200	200
Lost Soldier	4,600	3,850
Oregon Basin	1,400	1,300
Rock River	1,950	2,000
Salt Creek	25,200	26,200
Others	3,900	3,900
Total, Wyo.	43,300	43,650
Decrease		350

Montana

Cat Creek	1,100	1,100
Pondera	1,650	1,600
Sunburst	4,450	4,450
Others	1,450	1,500
Total Mont.	8,650	8,650

Colorado

Florence	350	450
Fort Collins	1,000	1,000
Moffat (Craig)	950	950
Others	1,750	1,800
Total, Colo.	4,050	4,200
Decrease		150

New Mexico

Artesia	500	550
Bal. Eddy Co.	200	150
Hobbs High	31,400	32,300
Bal. Lea Co.	4,800	4,400
Hogback	450	450
Rattlesnake	1,100	1,100
Table Mesa	100	50
Total, N. M.	38,550	39,000
Decrease		450
Total, Rocky Mountain	94,550	95,500
Decrease		950

TEXAS (OUTSIDE GULF COAST)

Panhandle District

Carson Co.	4,250	3,600
Gray Co.	42,650	42,650
Hutchinson Co.	8,250	8,600
Wheeler Co.	250	250
Others	200	200
Total, Panhandle Tex.	55,600	55,300
Increase		300

North Texas

	Apr. 25	Apr. 18
Archer Co.	11,750	11,650
Burkburnett	6,500	6,550
Electra	8,900	8,950
Iowa Park and K. M. A.	3,700	3,750
Montague-Cooke	5,400	5,400
Wilbarger	9,950	9,950
Young Co., No.	9,900	9,900
Others	1,150	1,200
Total, North Texas	57,250	57,350
Decrease		100

West Central Texas

Brown Co.	3,700	3,700
Callahan Co.	1,500	1,500
Coleman Co.	1,800	1,700
Eastland-Desdemona	3,800	3,800
Jack Co.	1,100	1,100
Palo Pinto Co.	300	300
Shackleford Co.	3,600	3,600
Stephens Co.	4,600	4,600
Throckmorton Co.	400	400
Young Co., So.	3,300	3,300
Others	1,050	1,050
Total, West Cent. Tex.	25,150	25,050
Increase		100

West Texas

Crane and Upton Cos.	24,100	23,750
Crockett Co.	1,700	1,750
Ector Co.	6,750	6,850
Howard Co.	29,600	29,000
Jones Co.	1,200	1,200
Mitchell and Scurry Cos.	2,000	2,000
Reagan Co.	20,400	28,450
Winkler Co.	45,050	45,700
Yates	66,950	68,600
Bal. Pecos County	4,000	4,000
Others	6,850	6,900
Total, West Texas	208,600	218,200
Decrease		9,600

East Central Texas

Boggy Creek	2,000	2,200
Corsicana-Powell	4,550	4,850
Currie	300	300
Mexia	3,400	3,600
Nigger Creek	150	150
Richland	100	100
Van Zandt	38,600	39,900
Wortham	550	500
Others	50	50
Total, East Cent. Tex.	49,700	51,650
Decrease		1,950

East Texas

Rusk County:		
Joiner	70,000	62,100
Kilgore	169,900	148,100
Gregg County:		
Longview	58,500	38,200
Total, E. Tex.	298,400	248,400
Increase		50,000

Southwest Texas

Chapmann		
Abbot	4,100	4,200
Dale	300	300
Darst Creek	20,750	20,450
Laredo Dist.	13,800	13,850
Luling	9,200	9,250
Lytton Spgs.	700	700
Salt Flat	12,550	12,700
Somerset	1,300	1,300
Others	500	500
Total, S. W. Texas	63,200	63,250

	Apr. 25	Apr. 18
Decrease		50
Total, Texas (Outside Gulf Coast)	757,900	719,200
Increase		38,700

GULF COAST

Coastal Texas

Barbers Hill	30,500	25,700
Batson	1,000	1,000
Big Creek	3,200	3,300
Blue Ridge	1,100	1,100
Boling	750	750
Damon Mound	1,300	400
Esperson	2,250	2,250
Fannett	500	500
Goose Creek	4,200	4,200
Hankamar	2,600	2,650
Hull	6,650	6,300
Humble	10,250	10,500
Moss Bluff	550	600
No. Dayton	650	550
Orange Co.	1,800	1,950
Orchard	1,900	1,900
Pettus	7,300	7,400
Pierce Junct.	8,800	9,100
Port Neches	1,400	1,450
Raccoon Bend	8,700	9,200
Refugio Co.	32,300	32,400
Saratoga	1,000	1,050
Somerville	2,400	2,050
Sour Lake	2,000	2,000
So. Liberty	2,200	2,100
Spindletop	9,800	9,800
Sugarland	11,650	11,750
W. Columbia	4,100	4,200
Others	2,050	2,050
Total, Coastal Texas	162,900	158,200
Increase		4,700

Coastal Louisiana

Edgerly	450	450
Evangeline	750	800
Hackberry, E.	1,900	1,900
Hackberry, Old	800	800
Lake Barre	2,300	2,250
Lockport	7,200	6,150
Port Barre	2,000	1,750
Sulphur Dome	1,600	1,750
Vinton	5,800	6,400
White Castle	1,000	1,000
Others	4,050	4,200
Total, Coastal La.	27,850	27,450
Increase		400
Total, Gulf Coast	190,750	185,650
Increase		5,100

CALIFORNIA

Dominguez	12,000	11,800
Elwood-Goleta	36,400	34,000
Huntington Beach	20,500	22,000
Inglewood	15,300	15,000
Kettleman Hills	26,400	26,600
Long Beach	89,000	88,800
Midway-Sunset	53,000	52,600
Playa del Rey	29,500	29,000
Santa Fe Spgs.	72,200	71,700
Seal Beach	15,700	15,600
Ventura Ave.	44,000	44,800
Others	114,100	115,000
Total, Calif.	528,100	526,900
Increase		1,200

EASTERN

(Not including Mich.)	101,750	105,300
Decrease		3,550

MICHIGAN

Mt. Pleasant	6,650	6,400
Muskegon	1,750	1,750
Saginaw	150	150
Total, Mich.	8,550	8,300
Increase		250

Compilation Of Mid-Continent Refinery Operations

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Mid-Continent Refinery Operations, Week Ended April 24 (By Telegraph)

	Kansas	Oklahoma	North & Cent. Texas	West Texas	North La.-Ark.	Total Week Ended April 24
Plants Reporting.....	10	23	23	10	10	76
Da. Av. Cap. (Bbls.)..	94,000	162,500	107,400	71,500	60,700	496,100
Da. Cracking Capacity	53,200	64,600	23,100	26,250	31,700	198,850
Da. Av. Crude Runs..	57,820 — 7.2	103,961 — 1.9	59,764 — 0.9	36,514 — 5.8	48,339 + 8.9	306,398 — 1.7
Da. Av. Other Oil....	6,585 + 54.6	2,486 + 22.3	6,322 +162.8	33	16,266 — 22.8	31,692 + 6.4
GASOLINE—Gallons						
Stocks, April 17.....	29,323,000	46,364,000	34,101,000	11,898,000	5,498,000	127,184,000
Prod. 4-17 to 4-24....	10,832,000 — 3.9	17,622,000 — 2.0	9,694,000 + 9.6	3,967,000 + 11.4	6,980,000 — 5.8	49,095,000 +0.05
Ship. 4-17 to 4-24....	12,918,000 + 1.1	16,136,000 — 0.7	8,095,000 — 24.9	3,544,000 + 10.1	6,819,000 + 3.7	47,512,000 — 4.2
Stocks, April 24.....	27,237,000 — 7.1	47,850,000 + 3.2	35,700,000 + 4.7	12,321,000 + 3.6	5,659,000 + 2.9	128,767,000 + 1.2
Ratio Sales to Prod...	119.3%	91.6%	83.5%	89.3%	97.7%	96.8%
KEROSINE—Gallons						
Stocks, April 17.....	7,521,000	14,529,000	2,013,000	4,000	339,000	24,406,000
Prod. 4-17 to 4-24....	2,037,000 + 3.9	2,287,000 — 4.3	1,112,000 + 3.6	11,000	233,000 — 33.2	5,680,000 — 1.6
Ship. 4-17 to 4-24....	2,288,000 — 7.3	2,679,000 — 7.6	1,195,000 + 6.0	11,000 +266.7	263,000 + 56.5	6,436,000 — 3.4
Stocks, April 24.....	7,270,000 — 3.3	14,137,000 — 2.7	1,930,000 — 4.1	4,000	309,000 — 8.8	23,650,000 — 3.1
Ratio Sales to Prod...	112.3%	117.1%	107.5%	100.0%	112.9%	113.3%
STOVE DISTILLATE—Gallons						
Stocks, April 17.....	2,076,000	4,727,000	514,000	108,000	50,000	7,475,000
Prod. 4-17 to 4-24....	409,000 + 11.1	714,000 + 14.6	369,000 — 7.1	28,000 — 12.5	120,000 + 60.0	1,640,000 + 9.7
Ship. 4-17 to 4-24....	880,000 — 30.9	358,000 — 27.4	226,000 — 37.7	15,000 — 28.6	134,000 +109.4	1,613,000 — 27.1
Stocks, April 24.....	1,605,000 — 22.7	5,083,000 + 7.5	657,000 + 27.8	121,000 + 12.0	36,000 — 28.0	7,502,000 + 0.4
Ratio Sales to Prod...	215.2%	50.1%	61.2%	53.6%	111.7%	98.4%
GAS OIL—Gallons						
Stocks, April 17.....	3,275,000	28,591,000	2,900,000	4,246,000	7,144,000	46,156,000
Prod. 4-17 to 4-24....	814,000 + 28.6	1,787,000 + 25.1	554,000 — 0.2	280,000 — 55.7	2,423,000 + 1.9	5,858,000 + 4.1
Ship. 4-17 to 4-24....	861,000 + 1.8	1,132,000 — 1.6	395,000 — 27.8	1,028,000 + 48.3	1,753,000 + 51.6	5,169,000 + 17.7
Stocks, April 24.....	3,228,000 — 1.4	29,246,000 + 2.3	3,059,000 + 5.5	3,498,000 — 17.6	7,814,000 + 9.4	46,845,000 + 1.5
Ratio Sales to Prod...	105.8%	63.3%	71.3%	367.1%	72.3%	88.2%
FUEL OIL—Gallons						
Stocks, April 17.....	11,339,000	50,949,000	60,792,000	15,503,000	21,578,000	160,161,000
Prod. 4-17 to 4-24....	5,485,000 + 14.9	6,277,000 — 3.6	6,664,000 + 0.7	5,073,000 — 10.4	4,848,000 — 6.1	28,347,000 — 1.3
Ship. 4-17 to 4-24....	4,283,000 — 5.2	4,284,000 — 14.9	4,835,000 — 20.9	3,318,000 — 23.6	5,243,000 — 2.8	22,062,000 —13.5
Stocks, April 24.....	12,541,000 + 10.6	52,942,000 + 3.9	62,621,000 + 3.9	17,258,000 + 11.3	21,084,000 — 2.3	166,446,000 + 3.9
Ratio Sales to Prod...	78.1%	68.2%	72.6%	65.4%	110.2%	77.8%

Gasoline Produced by Various Methods, Week Ended April 24

	Kansas	% of Total	Oklahoma	% of Total	North & Cent. Texas	% of Total	West Texas	% of Total	Louisiana-Arkansas	% of Total	Total	% of Total
Straight Run.....	5,799,000	53.5	11,487,000	65.2	6,079,000	62.7	3,855,000	97.2	3,147,000	45.1	30,367,000	61.8
Cracked.....	4,364,000	40.3	4,580,000	26.0	2,322,000	24.0	.....	....	2,920,000	41.8	14,186,000	28.9
Natural.....	669,000	6.2	1,555,000	8.8	1,293,000	13.3	112,000	2.8	913,000	13.1	4,542,000	9.3
Total.....	10,832,000		17,622,000		9,694,000		3,967,000		6,980,000		49,095,000	

\+ or — columns are % change over previous week.

Gasoline Shipments Lower, Stocks Rise in Mid-Continent

Staff Special—By Telegraph
TULSA, April 28

SHIPMENTS of gasoline from Mid-Continent refineries reporting weekly to NATIONAL PETROLEUM NEWS were 2,100,000 gallons less in the week ended April 24 than in the preceding week. Most of the decline was reported by North Texas plants. Shipments were reported to have been steady in Oklahoma and larger in West Texas, Kansas and Louisiana-Arkansas.

Crude runs to stills averaged 5300 barrels less a day. All districts but Louisiana-Arkansas curtailed runs. Gasoline output was 49,095,000 gallons, virtually the same as a week earlier.

Gasoline stocks increased 1,500,000 gallons. Kansas only lowered stocks.

Kerosine output and shipments were less, but stocks were reduced. Distillate stocks increased when production was increased and shipments fell. Gas oil stocks increased. Fuel stocks rose 6,300,000 gallons.

Summary for the Month

Production and shipments, all reporting refineries, for four weeks ended April 24. Change in stocks figures from March 27.

GASOLINE

	Gallons
Production	184,036,000
Shipments	184,243,000
Net change in stocks	—207,000
Ratio sales to production	100.1%

KEROSINE

Production	22,028,000
Shipments	25,315,000
Net change in stocks	—3,287,000
Ratio sales to production	114.9%

STOVE DISTILLATE

Production	6,426,000
Shipments	7,520,000
Net change in stocks	—1,094,000
Ratio sales to production	117.0%

GAS OIL

Production	26,263,000
Shipments	23,181,000
Net change in stocks	+3,082,000
Ratio sales to production	88.3%

FUEL OIL

Production	105,405,000
Shipments	95,657,000
Net change in stocks	+9,748,000
Ratio sales to production	90.8%

ADVERTISING PAGES REMOVED

Refinery - Tank Wagon Markets

Gasolines React in Middle Western Markets; Prices Steady in Other Districts

CLEVELAND, April 28

GASOLINE prices backed and filled in refinery markets last week. Prices of other oils continued to lose ground. There was increased buying of motor fuels and motor oils in most areas as a result of near-summer weather. Other factors, however, tended to keep markets in somewhat of an agitated state.

The reductions in Texas crude oil prices by Humble Oil & Refining Co., which were met by the majority of large purchasers in that state, probably had the most widespread influence. There was little immediate reaction noted in refined oil prices but they started losing ground two or three days later.

A wide variety of retail prices was reported for "third-grade" gasolines in the middle west. New price wars cropped up in several large cities. Tank car markets were unsettled.

Reaction set in in the Oklahoma gasoline market around the middle of the week. U. S. Motor, after advancing to a price range of 3.625 to 3.875 cents, April 20, dropped back to 3.25 to 3.75 cents, April 25. There was a similar move in prices in the Chicago market.

Gasoline prices held their ground in other inland markets and also in all seaboard tank car markets.

Bulk markets showed signs of improvement, although the evidence was more largely theoretical than actual. Increased inquiries from both foreign and domestic buyers for cargo lots of gasoline were reported in the California market. One cargo of U. S. Motor for coastwise shipment in May was reported sold at 3.50 cents.

Favoring the Gulf coast cargo market came the report from abroad that Rumanian refiners had advanced their gasoline prices 0.5-cent a gallon. They still were underquoting American refiners for European business. The fact, however, that the differential between Rumanian and American prices had been narrowed for the first time since the foreigners began shutting out American business about nine months ago was indeed encouraging to American traders.

There were further recessions in heavy oil prices in all tank car and bulk markets. The most significant reduction was the 10-cent cut in bunker oil prices by Standard of New Jersey at all of its Atlantic and Gulf coast fueling stations.

Gasoline Prices React Downward at Chicago

Staff Special
CHICAGO, April 25

THE Chicago market was considerably unsettled in the week ended April 25. Tank car gasoline prices moved upward 0.125 cent early in the week and then dropped back. There was a cut of 0.75 cent in the retail price of "Stanolind Blue" and several other brands of competitive gasoline in Chicago.

Several of the largest distributors of gasoline in the middle west were offering gasoline at various prices in Chicago April 25, which caused uncertainty among the smaller distributors as to what method to follow in meeting these prices.

The Standard of Indiana and the Sinclair Refining Co. offered their "low priced" gasolines in Chicago at 8.25 cents a gallon, without tax. The Shell Petroleum Corp. has not installed a third grade, but offered its regular "400" at 10 cents, without tax. At other points in the Indiana territory, Shell's price was 1 cent over that of "Stanolind Blue."

The Texas Co. also had not installed a third grade and was selling its regular gasoline at the normal price of Standard's Red Crown, 11 cents, without tax. It was reported however, that The Texas Co. shortly would offer a third grade to retail at the same price as "Stanolind Blue."

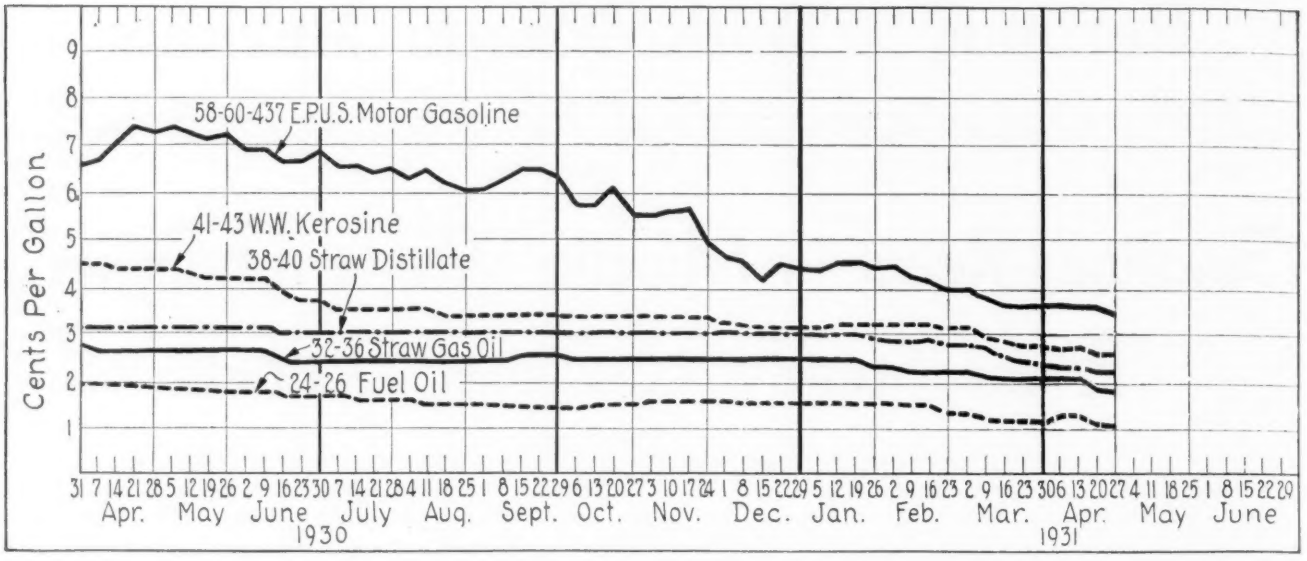
This uncertainty in the retail market was accredited by many sellers with having a detrimental effect on the tank car market. At any rate, the low of the price range for U. S. Motor gasoline, which had advanced 0.125 cent, to 3.375 cents on April 20, was back to 3.25 cents by the end of the week. The general price range for U. S. Motor on April 25 was 3.25 to 3.625 cents.

Spot demand was not especially good during the week, but most sellers reported that contract buyers were taking out their commitments satisfactorily. However, since the last reduction in service station prices in this area, many refiners who had been giving a fixed margin under the service station price had to deliver U. S. Motor at a price that figured less than 3 cents f.o.b. refinery. Several of these refiners reported they had cancelled these contracts and had either changed them to allow a smaller margin or were waiting for a time before offering others. Refiners who had their marginal contracts based on the normal tank wagon price were still offering the same contract, since these prices were not changed in the last general retail reduction.

There was little change noted in kerosine prices during the week. Demand was reported light by most sellers. Distillates also were quiet at unchanged prices.

Sub-normal temperatures which prevailed generally over the middle west brought a better demand for burner oils from home burner owners, according to distributors. However,

Current Prices of Principal Mid-Continent Refined Products


Cents Per Gallon
58-60-437 E.P.U.S. Motor Gasoline
41-43 W.W. Kerosine
38-40 Straw Distillate
32-36 Straw Gas Oil
24-26 Fuel Oil
Apr. May June July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June
1930
1931

Prices shown are in Group 3 basis and extended to date shown in Refinery Market Table Section of this issue

as most of them had fairly large amounts of oil in storage there was very little increase in activity in the tank car market. Sellers generally said they were spending most of their time working on contracts for next winter. The bulk of these were being based on the spot market on date of shipment.

Thomas T. Gray Dies Of Pneumonia

NEWARK, N. J., April 28.—Thomas T. Gray, president of the Gray Process Corp., died here last night of pneumonia, after an illness of only four days.

Mr. Gray is well known among executives and technologists of the petroleum refining industry, and has been one of the outstanding figures in the development of refining processes during the last two decades. His most important contribution to refining has been the development and commercial application of the Gray Vapor Phase Treating process for the purification of, especially, light distillates in the vapor phase with fuller's earth. This process is in wide use in the refining industry for treating both straight-run and cracked distillates.

He was educated at Columbia University, and has been associated with the oil industry practically all his adult life. He was chief chemist of the Tidewater Oil Co. from 1903 to 1915, at which time he withdrew to develop the Gray process of treating. He was a member of the American Chemical Society. The American Institute of Chemical Engineers, and of the British Institute of Petroleum Technologists.

On May 20, 1931, he was to receive the award of a medal from the Franklin Institute, the fifth of its kind that has been awarded, for "outstanding achievement in the application of a catalytic process to the refining of gasoline." It is understood that a posthumous award will be made.

He is survived by a wife and two daughters.

DAYTON, O.—W. H. Loviner, who has been eastern division manager for Refiners, Inc., here, has resigned May 1 to become associated with The Gulf Refining Co. at Toledo, O.

Shipments From Southern California

LOS ANGELES, Apr. 23—Shipments of bulk petroleum from southern California ports to Foreign and Atlantic Seaboard ports totaled 765,181 barrels for week ended Apr. 18 as compared with a total of 975,597 barrels a week ago. There were no shipments to Atlantic Foreign ports. Destination and quantity of shipments to other points were as follows:

Destination	Crude	Gasoline	Diesel	Kerosine	Fuel	Total
Pacific For.	81,838	106,224	57,981	5,453	229,195	480,691
Atlantic Dom.	.....	284,490	.....	.....	.....	284,490
Atlantic For.	.....	None	.....	.....	.....	.....

Prices 10 Years Ago
April 25, 1921

	Oklahoma	Penna.
58-60 U. S. Motor	16.25-17.00	20.25-21.00
80-84 Natural	11.00-12.25	.....
Kerosine (41-43 Okla.; 47 w. w. Pa.)	4.25-4.50	8.00-8.25
Fuel Oil (24-26 Okla.; 36-40 Pa.)	$0.70-$0.80	4.75-5.00
Crude (Okla. 35-35.9)	$1.75	$3.50
Chicago tank wagon (no state tax)		23.00c

Prices A Year Ago
April 28, 1930

	Oklahoma	Penna.
58-60 U. S. Motor	7.2500	8.00-8.50
Grade A Natural	6.625	.....
Kerosine (Okla. 41-43; Pa. 47 w. w.)	4.25-4.50c	6.25-6.50c
Fuel Oil (Okla. 24-26; Pa. 36-40)	$0.775-$0.80	4.00-4.375
Crude (Okla. 35-35.9)	$1.255	$3.00
Chicago tank wagon (including 3c tax)		18.00c

Mid-Continent Refinery Markets

Prices Recede Slightly Following Crude Cuts

Staff Special
TULSA, April 25

QUOTATIONS for the more popular grades of gasoline dropped 0.125 to 0.25 cent a gallon in various districts of the Mid-Continent following the crude oil price revisions in Texas fields April 21. Opinions among the trade when the crude cuts were announced were to the effect little change would be noted in gasoline quotations. Buyers have learned by experience, however, that a little watchful waiting following any change of that kind will have its effect a majority of times. Buyers accordingly became less active in the spot market, and in some quarters prices were reduced slightly in order to attract business.

Kansas and Oklahoma refiners were forced to reduce quotations primarily because of competition from Texas. Jobbers throughout the Standard of Indiana territory have combed the market, according to reports of refinery sales managers, for quotations on gasolines which they could adapt to their use in competition with "Stanolind Blue" and the competitive grade being installed by other major marketing companies. Buyers have found Texas a possible source of supply, and many orders have found their way down there.

And with the crude price revisions Texas refiners in many instances reduced their quotations on gasoline to attract business. This condition had reacted on Louisiana and Arkansas refiners who have been forced to reduce prices for differential territory movement.

While the majority of refiners in Oklahoma April 25 quoted 3.50 cents and up for 58-60 U. S. Motor gasoline, there were sufficient quotations to jobbers at 3.25 cents to be a factor in the market. The same condition prevailed in Texas, while in Arkansas and Louisiana quotations were 3.75 cents flat.

Refiners in Kansas and Oklahoma reported demand for kerosine was steady throughout the week. No changes were made in quotations. In Texas, kerosines were comparatively active the first part of the week but demand became lighter the latter part. Prices were unchanged.

Natural gasolines remained comparatively inactive. Buying was mostly in small lots and prices in some instances lost a little more ground.

Reports were current April 25 that two large companies which normally move their production to subsidiary companies, but which for the past two or three months have pushed their production onto the open market, were making arrangements to withdraw from the market within the next few days. The opinion generally was that such a move would go far toward stabilizing the market.

In the event these companies do withdraw from the market, one sales manager said, it will mean the difference between a well balanced market and one which has had to absorb a large quantity of distress material. It has been felt for some time that the business which had gone to these companies would have given the other manufacturers sufficient orders to keep the market fairly stable.

Fuel oils and gas oils were in light demand in most quarters. Refiners reported contract shipments were about the only business they had obtained for the past two or three weeks. Industrial buying was light and with east Texas fuel oil being offered at low prices little spot business found its way into other areas of the Mid-Continent.

Refiners reported demand for bright stocks showed no improvement during the week. Competition remained sufficiently keen for all grades to be virtually the same in price.

Neutral oils demand was fair for the low cold test grades but light for the ordinary grades. Prices were unchanged for all grades although a few refiners reported slight revisions within the present price ranges.

Wax demand was fair several refiners said although no changes were noted in prices.

Wheeler Returns to P. & R. After Long Illness

TULSA, April 20.—Having completely recovered his health, P. V. Wheeler, until about three years ago Tulsa representative for the Producers & Refiners Corp., now is located in Nashville, Tenn., where he is assistant manager of the Nashville division for the same company.

"P. V." was well known in Tulsa. When he was forced to take a leave of absence, however, he left Tulsa and spent almost a year at Springfield, Mo. He then rejoined the P. & R. organization and was sent to Nashville.

That Mr. Wheeler has completely regained his health is evidenced by the fact that the Nashville Y. M. C. A. volley ball team, of which he is a member, has won two tournaments, and placed third in the southern regional tournament several weeks ago. Mr. Wheeler and his partner were the only players mentioned for special honors other than members of the first and second place winners in the tournament.

Oklahoma Chemists Meet At Barnsdall

TULSA, April 25.—Approximately 50 members and guests of the petroleum group of the Oklahoma section of the American Chemical Society met April 24 at Barnsdall, Okla., to discuss "Corrosion." Papers were presented by Dr. Franklin T. Gardner of the University of Tulsa staff, and L. E. Cannon of the Continental Oil Co.

Prior to the meeting plants of the Barnsdall Refineries, Inc., and the pump station of the Great Lakes Pipe Line Co. at Barnsdall were inspected by the society members. The meeting was held at the Barnsdall club house, where dinner was served, followed by a humorous skit "Explosives" staged by two members.

To Show Gasoline in Transit

NEW YORK, April 27.—The American Petroleum Institute is planning to expend its weekly statistical reports to include gasoline in storage at bulk terminals and in transit in barges and tankers. The U. S. Bureau of Mines will be asked to change its reports to that basis also.

Record of Refinery Fires Published

Copies of a five-year summary of the American Petroleum Institute Fire Record on Refining Properties is available to members of the Institute's Division of Refining at the New York headquarters, upon request. No charge is made for the summary.

May Study Sulfur in Gasoline

NEW YORK, April 27.—A research program on sulfur in gasoline with an estimate of cost is to be prepared by a committee of the American Petroleum Institute to be headed by J. Bennett Hill, Atlantic Refining Co. The committee will work with Committee D-2 of the A. S. T. M.

Comparative Prices of 58-60 U. S. Motor Gasoline, 437 E. P., Group 3 and Point of Origin, to Jobbers Only

In Effect April 27

	Price F.O.B. Group 3		*Price F.O.B. Point of Origin*		*If for Particular Destination*
Oklahoma	3.25 –3.75		3.25 –3.75		
Kansas	3.50 –3.75				S. O. Neb. & Indiana Territories, etc.
Kansas			3.75 –4.00		Kansas only.
North Texas	3.25 –3.50		3.25 –3.50		
West Texas	3.25 –3.50		3.25 –3.50		
Louisiana-Arkansas	3.50 –3.75				Michigan, Ohio and Indiana.
Louisiana-Arkansas			3.75		State or differential haul.
Indiana-Illinois	3.25 –3.75		*		S. O. Indiana territory except Detroit and vicinity. For Ohio on delivered basis only.

*Shipments made from Indiana and Illinois refineries, according to conditions and freight rates; no prices F. O. B. point of origin can be given.

Chicago Tank Car Market

CHICAGO, April 25

THE Chicago market was considerably unsettled the past week. Tank car gasoline prices, which had moved upward early in the week, moved downward toward the close. Sales of U. S. Motor gasoline were reported as low as 3.125 cents, but the bulk of movement was reported at 3.25 cents and up. Kerosine and distillate were quiet at unchanged prices. Subnormal temperatures caused a better demand for fuel from home burner owners, but the tank car market remained generally inactive.

Following prices represent majority of sales made on Group 3 freight basis, although shipments may originate in other refining districts, such as North and West Texas, Louisiana, Arkansas, Indiana, Illinois, Kentucky, etc.

	Prices April 27	Prices April 20	Prices April 13
58-60 U. S. Motor, 437 e.p.	3.25 – 3.625	3.375– 3.75	3.25 – 3.75
†56-62 400-437 e.p. anti-knock gasoline	3.75 – 4.875	3.75 – 4.875	3.75 – 4.875
60-62 437 e.p. gasoline	3.25 – 3.75	3.375– 3.75	3.375– 3.75
60-62 400 e.p. gasoline	3.375– 3.875	3.50 – 3.875	3.50 – 3.875
64-66 375 e.p. gasoline	4.00 – 4.25	4.00 – 4.25	4.00 – 4.375
68-70 350-360 e.p. gasoline	4.25 – 4.50	4.375– 4.75	4.375– 4.875
*Domestic Aviation Gasoline	5.25 – 6.125	5.75 – 6.125	5.75 – 6.125
41-43 w.w. kerosine	2.625– 2.75	2.625– 2.875	2.625– 3.00
42-44 w.w. kerosine	2.75 – 3.00	2.75 – 3.00	2.75 – 3.00
38-40 p. w. distillate	2.125– 2.375	2.25 – 2.375	2.25 – 2.50
38-40 straw distillate	2.125– 2.25	2.125– 2.375	2.25 – 2.375
32-36 ordinary dark gas oil	1.125– 1.375	1.25 – 1.50	1.375– 1.50
32-36 dark zero gas oil	1.75 – 2.00	1.875– 2.125	1.875– 2.125
32-36 straw zero gas oil	2.00 – 2.25	2.00 – 2.25	2.00 – 2.25
28-30 zero fuel oil (per bbl.)	$0.725–$0.75	$0.725–$0.75	$0.75 –$0.775
28-30 fuel oil (per bbl.)	$0.70 –$0.75	$0.70 –$0.75	$0.725–$0.775
24-26 fuel oil (per bbl.)	$0.475–$0.55	$0.475–$0.55	$0.50 –$0.575
18-22 fuel oil, low sulfur (per bbl.)	$0.375–$0.45	$0.375–$0.45	$0.40 –$0.45
18-22 fuel oil, high sulfur zero (per bbl.)	$0.425–$0.45	$0.425–$0.45	$0.425–$0.475
14-16 fuel oil (per bbl.)	$0.35 –$0.40	$0.35 –$0.40	$0.35 –$0.40

*Prices are based on U. S. Gov't. specifications or better. Present Gov't. specifications require distillation range of 5% recovery at not more than 167° F., and not less than 122° F.; 50% recovery at 221°; 90% at 311°; 96% at 347°; end point 374° F. Gasoline of fighting grade specifications in some instances sells at a premium over domestic aviation grade. Prices represent majority of quotations.

†Over 45% benzol equivalent. Prices represent quotations and sales.

Hindman Joins Oil States

NEW YORK, April 25.—Walter G. Hindman, who has been selling petroleum products for 18 years, is now with Oil States Petroleum Co., Inc., with offices in the Woolworth Bldg. here.

Mr. Hindman will be in charge of marketing of fuel oils, gasoline, kerosine and lubricating oils.

The Oil States company has been in business since 1919, doing a marketing business in paraffin wax, lubricating oils, and other petroleum products. C. T. Faas is president and E. F. Miller vice president. The company recently increased its authorized capital to $100,000.

WASHINGTON — Purchase of a shale oil plant at Kinnekulle, Sweden, is being considered by the Swedish Government at the recommendation of the Royal Swedish Board of Trade and the Naval Administration. Yearly capacity of the plant is 4800 barrels of crude and Diesel oils for which 24,000 tons of shale are required, according to the U. S. Department of Commerce.

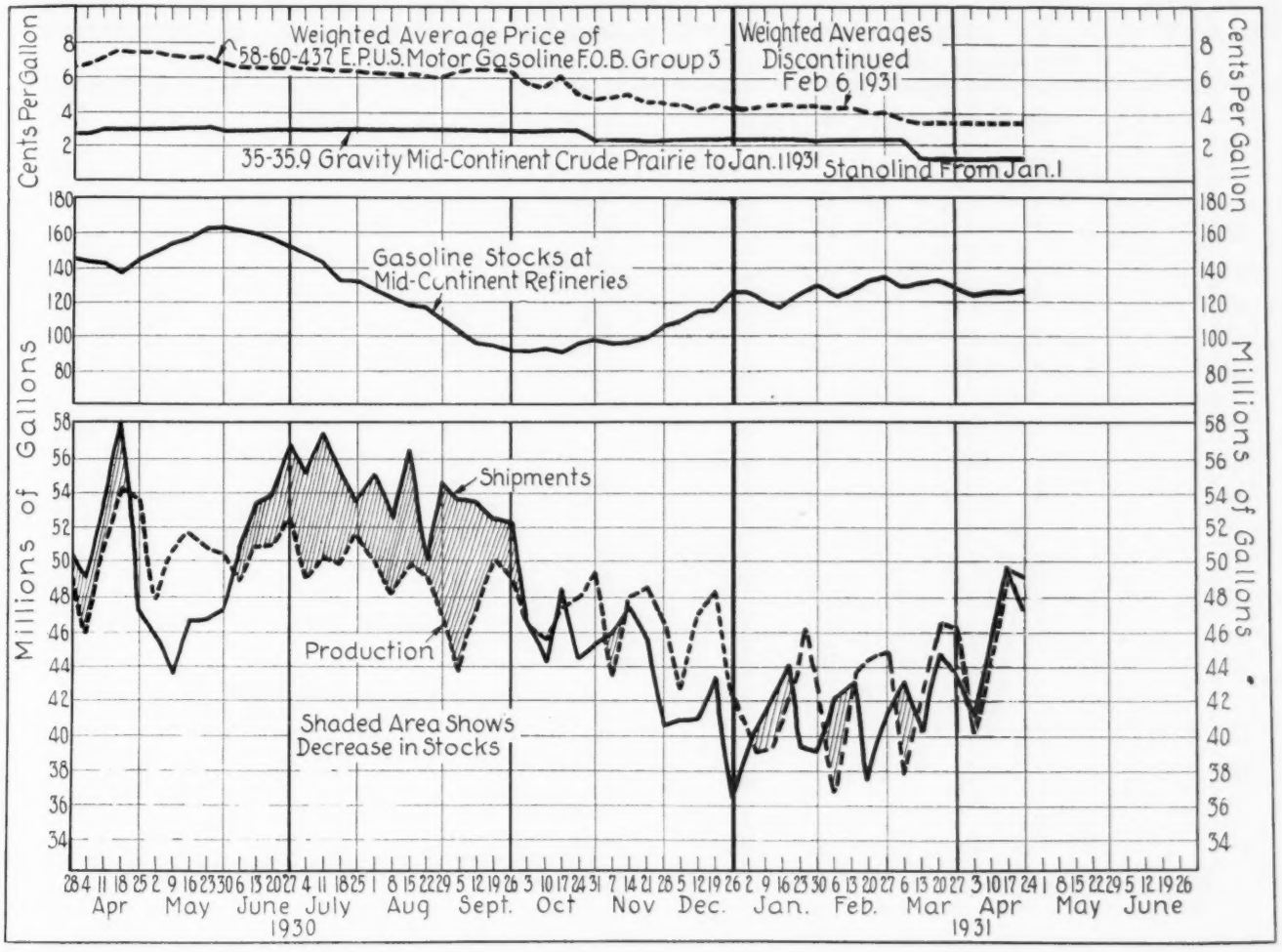
The Swedish Navy would be the largest user of products from this plant, it requiring oil in normal times at a cost of about $270,000 per year.

Purchase price being recommended for the plant is approximately $107,500.

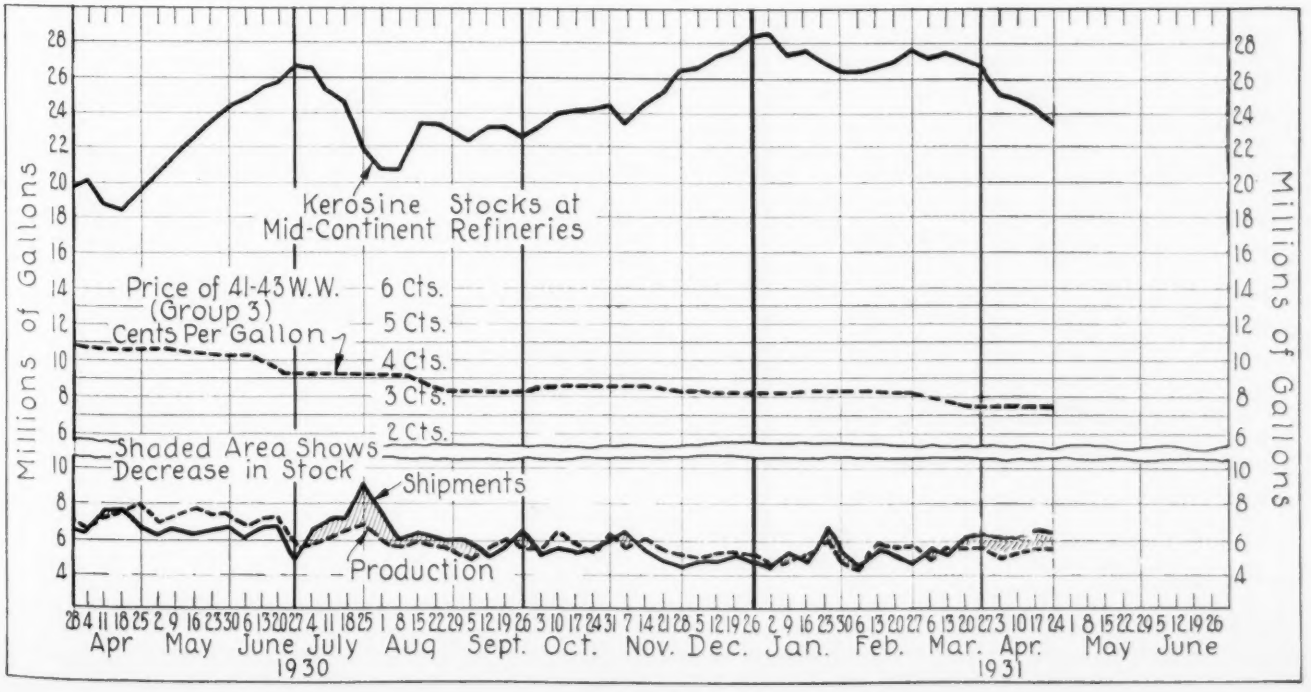
Bulgaria imported 27,500 pounds of paraffin wax from the United States in the first half of 1930. It imported 115,690 pounds from Germany, these two countries forming the bulk of Bulgaria's imports of this product.

Barometer of Mid-Continent Refinery Market—Week Ending April 24

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, From Reports Made by 93 Plants to National Petroleum News


Cents Per Gallon
Weighted Average Price of 28-60-437 E.P.U.S. Motor Gasoline F.O.B. Group 3
Weighted Averages Discontinued Feb 6 1931
35-35.9 Gravity Mid-Continent Crude Prairie to Jan. 1 1931
Stanolind From Jan. 1
Gasoline Stocks at Mid-Continent Refineries
Millions of Gallons
Shipments
Production
Shaded Area Shows Decrease in Stocks
Apr May June July Aug Sept. Oct Nov Dec. Jan. Feb. Mar Apr May June
1930
1931

Prices shown above are extended to date shown in Refinery Market and Crude tables in Market section of this issue and stocks, *shipments and Production are extended to date as shown in the table on page 98*



Refinery Markets on Light Oils and Lubricants

Prices given below are in cents per gallon, except where $ is shown in tank car lots, f.o.b. Refinery. They represent prices made only to domestic jobbers who resell to the consuming public, except where otherwise noted.

(These Refinery Prices compiled in the OIL PRICE HANDBOOK for a whole year)

GASOLINE AND NAPHTHA

OKLAHOMA (F. o. b. Oklahoma refineries)

	Prices April 27	Prices April 20	Prices April 13
48-50 450 e.p. naphtha...	3.125– 3.25	3.125– 3.375	3.125– 3.375
50-52 450 e.p. naphtha...	3.125– 3.25	3.125– 3.375	3.125– 3.375
56-58 450 e.p. gasoline...	3.125– 3.25	3.125– 3.375	3.125– 3.375
58-60 450 e.p. gasoline...	3.125– 3.25	3.125– 3.375	3.125– 3.375
58-60 U.S. Motor 437 e.p.	3.25 – 3.75	3.625– 3.875	3.375– 3.875
60-62 437 e.p. gasoline...	3.375– 3.875	3.625– 4.00	3.50 – 4.00
60-62 400 e.p. gasoline...	3.50 – 4.00	3.75 – 4.25	3.625– 4.125
64-66 390 e.p. gasoline...	3.875– 4.125	4.125– 4.375	4.00 – 4.25
64-66 375 e.p. gasoline...	4.00 – 4.375	4.375– 4.50	4.25
68-70 350-360 e.p. gasoline	4.25 – 4.50	4.50 – 4.625	4.625
‡Domestic Aviation Gasoline.....	5.25 – 6.00	5.25 – 6.00	5.25 – 6.00

‡Prices based on U. S. Gov't. specifications or better. Present Gov't. specifications require distillation range of 5% recovery at not more than 167° F., and not less than 122° F.; 50% rec. at 221°; 90% at 311°; 96% at 347°; end point, 374°F. Fighting grade in some instances sells at a premium over domestic aviation grade. Prices represent majority of quotations.

PENNSYLVANIA (F. o. b. Western Pennsylvania refineries)

52-54 Naphtha.....	5.00 – 5.25	5.125– 5.25	5.125– 5.50
54-56 Naphtha.....	5.00 – 5.25	5.125– 5.25	5.125– 5.50
58-60 U.S. Motor 437 e.p.	5.00 – 5.50	5.125– 5.50	5.125– 5.50
60-62 400-410 e.p. gasoline	5.25 – 5.625	5.375– 5.625	5.375– 5.625
64-66 390 e.p. gasoline...	5.50 – 6.00	5.75 – 6.25	5.75 – 6.25
68-70 350-360 e.p.....	6.25 – 6.75	6.50 – 7.00	6.50 – 7.00

OHIO (Quotations of S. O. Ohio. 4c state tax to be added.)

U. S. Motor Gasoline			
Ohio, delivery at any point.....	8.00	8.00	8.00

KANSAS (F. o. b. refinery Kansas destination)

58-60 U.S. Motor 437 e.p.	3.75 – 4.00	3.875– 4.125	4.00 – 4.25
60-62 437 e.p. gasoline...	4.00 – 4.25	4.00 – 4.25	4.125– 4.375
60-62 400 e.p. gasoline...	4.125– 4.375	4.125– 4.375	4.25 – 4.50
64-66 375 e.p. gasoline...	4.625– 4.875	4.625– 4.875	4.75 – 5.00

NORTH TEXAS (F. o. b. North Texas refineries)

56-58 450 e.p. gasoline...	3.00 – 3.25	3.00 – 3.25	3.00 – 3.25
58-60 450 e.p. gasoline...	3.00 – 3.25	3.00 – 3.25	3.00 – 3.25
58-60 U.S. Motor 437 e.p.	3.25 – 3.50	3.50 – 3.625	3.375– 3.625
60-62 400 e.p. gasoline...	3.50 – 4.00	3.625– 4.00	3.625– 4.00
64-66 390 e.p. gasoline...	4.00 – 4.25	4.00 – 4.25	4.00 – 4.25
64-66 375 e.p. gasoline...	4.125– 4.375	4.25 – 4.50	4.25 – 4.50
68-70 350-360 e.p. gasoline	4.375– 4.625	4.50 – 4.75	4.50 – 4.75

****WEST TEXAS** (F. o. b. West Texas refinery, for unrestricted shipment)

50-52 naphtha.....	3.00 – 3.25	3.00 – 3.25	3.375– 3.50
58-60 437 e.p. gasoline...	3.125– 3.375	3.25 – 3.375	3.375– 3.50
58-60 U.S. Motor 437 e.p.	3.25 – 3.50	3.375– 3.50	3.375– 3.625

NORTH LOUISIANA (N. La., Ark. and Miss. destination)

58-60 U.S. Motor 437 e.p.	3.75	4.00	4.00

ARKANSAS (Ark., N. La. and Miss. destination)

58-60 U.S. Motor 437 e.p.	3.75	3.75 – 4.00	4.00

CALIFORNIA (3c tax to be added to California gasoline prices if used in state.)

54-58 U.S. Motor 437 e.p.	3.00 – 4.00	3.00 – 4.00	3.25 – 4.25
54-58 U.S. Motor, for outside state shipment....	3.00 – 4.00	3.00 – 4.00	3.75 – 4.25
58-61 375-400 e.p. gasoline	4.00 – 5.00	4.00 – 5.00	4.50 – 5.25
42-45 Engine Distillate 445-480 e.p.....	3.00 – 4.00	3.00 – 4.00	3.75 – 4.25

NATURAL GASOLINE

(Note: End point of all grades, not over 375F. Corrosion test adopted Oct. 1, 1927; A.S.T.M. Method D130-27T; doctor test, July 2, 1928.)

OKLAHOMA (F. o. b. Oklahoma refineries)

Grade AA, 80-87.9, 90% Recovery.....	1.50 – 1.625	1.75	2.125– 2.25
Grade A, 72-79.9, 90% Recovery.....	1.625– 1.75	1.875– 2.00	2.25 – 2.375
Grade BB, 84-92, 85% Recovery.....	1.50 – 1.625	1.625	1.875– 2.00
Grade B, 76-83.9, 85% Recovery.....	1.50 – 1.625	1.625	2.00 – 2.125
Grade C, 80-92, 78% Recovery.....	1.50 – 1.625	1.625	1.875

NORTH TEXAS (F. o. b. Breckenridge)

	Prices April 27	Prices April 20	Prices April 13
Grade AA, 80-87.9, 90% Recovery.....	1.50 – 1.625	1.75	2.125– 2.25
Grade A, 72-79.9, 90% Recovery.....	1.625– 1.75	1.875– 2.00	2.25 – 2.375
Grade BB, 84-92, 85% Recovery.....	1.50 – 1.625	1.625	1.875– 2.00
Grade B, 76-83.9, 85% Recovery.....	1.50 – 1.625	1.625	2.00 – 2.125
Grade C, 80-92, 78% Recovery.....	1.50 – 1.625	1.625	1.875

NORTH LOUISIANA (F. o. b. Monroe District)

Grade AA.....	†1.75	†2.00	†2.25
Grade BB.....	†1.75	†1.875	†2.00
Grade C.....	†1.75	†1.875	†1.875

CALIFORNIA (F. o. b. California refineries)

75-85, 375-390 e.p. for blending.....	3.00 – 3.50	2.50 – 3.00	2.75 – 3.25

BURNING OILS

PENNSYLVANIA (F. o. b. Western Pennsylvania refineries)

45 w.w. kerosine.....	4.25 – 4.50	4.375– 4.50	4.375– 4.75
46 w.w. kerosine.....	4.50 – 4.75	4.625– 4.75	4.625– 5.00
47 w.w. kerosine.....	4.75 – 5.00	4.75 – 5.00	4.875– 5.125
300 mineral seal.....	Discontinued	5.25 – 5.50	5.25 – 5.50

OKLAHOMA (F. o. b. Oklahoma refineries)

41-43 w.w. kerosine.....	2.625– 2.75	2.625– 2.75	2.75 – 3.00
42-44 w.w. kerosine.....	2.875– 3.125	2.875– 3.125	3.00 – 3.25

KANSAS (F. o. b. refinery Kansas destination)

41-43 w.w. kerosine.....	3.00 – 3.25	3.00 – 3.25	3.125– 3.25
42-44 w.w. kerosine.....	3.25 – 3.50	3.50	3.375– 3.50

NORTH TEXAS (F. o. b. North Texas refineries)

40-42 w.w. kerosine.....	2.50	2.50	2.50 – 2.625
41-43 w.w. kerosine.....	2.625– 2.75	2.625	2.625– 2.875

NORTH LOUISIANA (N. La., Ark. and Miss. destination)

41-43 w.w. kerosine.....	3.25 – 3.50	3.50	3.50
42-44 w.w. kerosine.....	.....	3.75	3.75

ARKANSAS (Ark., N. La. and Miss. destination)

41-43 w.w. kerosine.....	3.25 – 3.50	3.50	3.50

CALIFORNIA (F. o. b. California refineries)

38-40 w.w. kerosine.....	4.00 – 4.50	4.00 – 4.50	4.00 – 5.00

NEUTRAL OIL

PENNSYLVANIA (F. o. b. Western Pennsylvania refineries)

Vis.		(Viscosity at 70° F.)	
200 No. 3 Assoc. Filt....	21.50 –22.50	22.00 –22.50	22.00 –23.00
180 No. 3 Assoc. Filt....	18.50 –19.50	19.00 –19.50	19.00 –20.00
150 No. 3 Assoc. Filt....	16.50 –17.50	17.00 –17.50	17.00 –18.00

Note: Low cold test neutral oils are quoted approximately 6c per gal. higher than prices shown above.

		(Non Viscous)	
34 Grav. 330-340 Flash...	Discontinued	5.25 – 6.00	5.25 – 6.00

****MID-CONTINENT** (F. o. b. Mid-Continent refineries)

Vis. Color		(Viscosity at 100° F.)	
100—No. 2.....	5.25	5.25	5.25
150—No. 3.....	6.75 – 7.00	6.75 – 7.00	6.75 – 7.00
150—No. 4.....	6.50	6.50	6.50
180—No. 3.....	8.00 – 8.50	8.00 – 8.50	8.00 – 8.50
180—No. 4.....	7.75 – 8.00	7.75 – 8.00	7.75 – 8.00
180—No. 5.....	7.50	7.50	7.50
200—No. 3.....	9.50	9.50	9.50
200—No. 4.....	8.50	8.50	8.50
200—No. 5.....	8.25	8.25	8.25
220—No. 3.....	10.00 –10.50	10.00 –10.50	10.00 –10.50
220—No. 4.....	9.75 –10.25	9.75 –10.25	9.75 –10.25
220—No. 5.....	10.00 –10.25	10.00 –10.25	10.00 –10.25
240—No. 3.....	12.00	12.00	12.00
240—No. 4.....	10.50	10.50	10.50
240—No. 5.....	10.50 –11.00	10.50 –11.00	10.50 –11.00
280—No. 3.....	14.00	14.00	14.00
280—No. 4.....	13.00	13.00	13.00
280—No. 5.....	12.00	12.00	12.00

Note: Quotations for 0 to 10 cold test neutral oils are 1 to 2 cents higher depending on the grade.

†Prices nominal ††Only one refiner quoting *Quotations only

****Prices represent Quotations and Sales.**

Refinery Markets Wax, Lubricants, Heavy Oil

Prices given below are in cents per gallon, except where $ is shown in tank car lots, f.o.b. Refinery. They represent prices made only to domestic jobbers who resell to the consuming public, except where otherwise noted.

(For quick reference to Refinery Prices, get the OIL PRICE HANDBOOK, published annually)

GULF COASTAL (F. o. b. Gulf Coastal refineries)

Vis. Color	Prices April 27	Prices April 20	Prices April 13
	(Viscosity at 100° F., pour test 0)		
100—No. 2 Pale	5.50 – 6.25	5.50 – 6.25	5.50 – 6.25
200—No. 3 Pale	8.00 – 8.50	8.00 – 8.50	8.00 – 8.50
300—No. 3 Pale	9.00 – 9.50	9.00 – 9.50	9.00 – 9.50
500—No. 3½ Pale	10.00 –10.50	10.00 –10.50	10.00 –10.50
750—No. 4 Pale	11.50 –12.50	11.50 –12.50	11.50 –12.50
‡1200—No. 4 Pale	14.50 –15.00	14.50 –15.00	14.50 –15.00
2000—No. 4-5 Pale	15.50 –16.00	15.50 –16.00	15.50 –16.00
200—No. 5½ Red Oil	7.00 – 7.50	7.00 – 7.50	7.00 – 7.50
300—No. 5½ Red Oil	8.00 – 8.50	8.00 – 8.50	8.00 – 8.50
500—No. 6 Red Oil	9.00 –10.00	9.00 –10.00	9.00 –10.00
750—No. 6 Red Oil	11.00 –11.50	11.25 –11.75	11.25 –11.75
1200—No. 5-6 Red Oil	13.50 –14.00	13.50 –14.00	13.50 –14.00
2000—No. 6 Plus Red Oil	15.50 –16.00	15.50 –16.00	15.50 –16.00

‡CALIFORNIA (F. o. b. California refineries)

Vis. Color	(Viscosity at 100° F.)		
100—No. 3	9.50 –10.00	9.50 –10.00	9.50 –10.00
200—No. 3	11.50	11.50	11.50
300—No. 3	13.00	13.00	13.00
450—No. 3	15.50	15.50	15.50
550—No. 3	16.50	16.50	16.50
600—No. 3	17.00	17.00	17.00
200—No. 5	11.00	11.00	11.00
300—No. 5	12.00	12.00	12.00
400—No. 5	14.00	14.00	14.00
500—No. 5	15.00	15.00	15.00
600—No. 5	16.00	16.00	16.00
700—No. 7	18.00	18.00	18.00

‡Neutral oils not manufactured commercially in California.

CYLINDER STOCKS

MID-CONTINENT (F. o. b. Mid-Continent refineries)

(Cylinder stock prices represent quotations and sales to domestic jobbers only).

‡190-200 Vis. D at 210° Brt. St.	20.00	20.00	20.00
‡150-160 Vis. D at 210° Brt. St., 0-10 cold test	14.50 –16.00	14.50 –16.00	14.50 –16.00
‡150-160 Vis. D at 210° Brt. St., 10-25 cold test	14.50 –15.00	14.50 –15.00	14.50 –15.00
‡150-160 Vis. D Brt. Stock, 25-40 cold test	14.00 –14.50	14.00 –14.50	14.00 –14.50
150-160 Vis. E 210° Brt. St.	13.50 –14.50	13.50 –14.50	13.50 –14.50
600 St. Ref. Olive Green	6.00 – 8.00	6.00 – 8.00	6.00 – 8.00
600 St. Ref. Dark Green	4.50 – 5.50	4.50 – 5.50	4.50 – 5.50
Black Oil	4.00 – 5.00	4.00 – 5.00	4.00 – 5.00

PENNSYLVANIA (F. o. b. Western Penna. refineries) (A.S.T.M. Tests)

600 Steam Refined, filterable	8.00 – 8.75	8.00 – 8.75	8.25 – 8.75
650 Steam Refined	11.50 –12.00	11.50 –12.00	11.50 –12.00
600 Flash	12.50 –13.00	12.50 –13.00	12.50 –13.50
630 Flash	18.00 –20.00	18.00 –20.00	18.00 –20.00
600 Warren E	11.75 –12.50	12.00 –12.50	12.00 –13.00
600 Oil City E	.....	.....	.....
600 D Filtered	Discontinued	†14.50 –15.00	†14.50 –15.00
Cold Test Stocks, 140-150 vis. at 210°, 540-550 flash,			
No. 8 color, ‡20 pour test and below	17.50 –18.00	18.00 –19.00	18.00 –19.00
No. 8 color, ‡25 and 35 pour test	17.50 –18.00	17.50 –18.00	18.00 –19.00
No. 8 color, ‡40 pour test and above	17.50 –18.00	17.50 –18.00	17.50 –18.00

‡Beginning March 16, pour tests changed to those shown above. Were formerly: 25 pour test; 25-35 pour test; and above 35 pour test, respectively.

WAX

PENNSYLVANIA (Per pound, F. o. b. New York)

122-124 white crude scale a.m.p.	2.125– 2.25	2.125– 2.25	2.25
124-126 white crude scale, a.m.p.	2.125– 2.25	2.125– 2.25	2.25

****OKLAHOMA** (Per pound in barrels; in a few instances, per pound in burlap bags; F. o. b. Oklahoma refineries.)

124-126 White Crude Scale, a.m.p.	2.00 – 2.25	2.00 – 2.25	2.00 – 2.25

DISTILLATE, GAS AND FUEL OIL

PENNSYLVANIA (For outside Pittsburgh district)

36-40 fuel oil	2.625– 2.875	2.75 – 2.875	2.875– 3.25
30-34 fuel oil	2.625– 2.875	2.75 – 2.875	2.75 – 3.00
28-32 fuel oil	2.625– 2.875	2.75 – 2.875	2.75 – 3.00

†Prices nominal ††Only one refiner quoting *Quotations only

OKLAHOMA (F. o. b. Oklahoma refineries)

	Prices April 27	Prices April 20	Prices April 13
38-40 straw distillate	2.125– 2.375	2.125– 2.375	2.25 – 2.50
36-38 straw distillate	2.00 – 2.125	2.00 – 2.125	2.125– 2.25
32-36 straw gas oil	1.75 – 2.00	1.75 – 2.00	2.00 – 2.125
32-36 straw gas oil zero	2.00 – 2.125	2.00 – 2.125	2.125– 2.375
32-36 dark gas oil	1.25 – 1.50	1.25 – 1.50	1.75
32-36 dark gas oil zero	1.75 – 2.00	1.75 – 2.00	2.00 – 2.125
28-30 zero fuel oil (per bbl.)	$0.725–$0.775	$0.725–$0.775	$0.725–$0.775
28-30 fuel oil (per bbl.)	$0.70 –$0.75	$0.70 –$0.75	$0.70 –$0.75
26-28 fuel oil (per bbl.)	$0.60 –$0.70	$0.60 –$0.70	$0.60 –$0.70
24-26 fuel oil (per bbl.)	$0.475–$0.525	$0.475–$0.525	$0.50 –$0.55
22-26 fuel oil (per bbl.)	$0.45 –$0.50	$0.45 –$0.50	$0.475–$0.50
18-22 fuel oil (per bbl.)	$0.40 –$0.45	$0.40 –$0.45	$0.425–$0.45
16-20 fuel oil (per bbl.)	$0.375–$0.40	$0.375–$0.40	$0.375–$0.425
14-16 fuel oil (per bbl.)	$0.35 –$0.40	$0.35 –$0.40	$0.35 –$0.40

KANSAS (F. o. b. refinery Kansas destination)

38-40 straw distillate	2.625– 2.75	2.625– 2.75	2.75 – 3.00
36-38 straw distillate	2.50	2.50	2.50 – 2.75
32-36 straw gas oil	2.25 – 2.50	2.25 – 2.50	2.375– 2.625
18-22 fuel oil (per bbl.)	$0.50 –$0.60	$0.50 –$0.60	$0.50 –$0.60
10-14 fuel oil (per bbl.)	$0.40 –$0.45	$0.40 –$0.45	$0.40 –$0.45

NORTH TEXAS (F. o. b. North Texas refineries)

38-40 straw distillate	2.125– 2.375	2.25 – 2.375	2.25 – 2.50
38-40 p.w.treated distillate	2.125– 2.50	2.25 – 2.50	2.25 – 2.625
32-36 gas oil, cracked	1.50 – 1.75	1.50 – 1.75	1.75 – 2.00
32-36 St. reduced gas oil	1.25 – 1.50	1.25 – 1.50	1.50 – 1.75
24-26 fuel oil (per bbl.)	$0.375–$0.425	$0.375–$0.425	$0.375–$0.425
20-24 fuel oil (per bbl.)	$0.35 –$0.40	$0.35 –$0.40	$0.35 –$0.40
18-22 fuel oil (per bbl.)	$0.325–$0.35	$0.325–$0.35	$0.325–$0.35

****WEST TEXAS** (F. o. b. West Texas refinery, for unrestricted shipment.

34-38 gas oil	1.625– 1.75	1.75	1.875– 2.00
30-32 gas oil	1.00 – 1.25	1.00 – 1.25	1.50
28-30 zero gas oil	1.50 – 1.75	1.50 – 1.75	2.00 – 2.125
18-22 fuel oil (per bbl.)	$0.375–$0.40	$0.375–$0.40	$0.375–$0.40

NORTH LOUISIANA (N. La., Ark. and Miss. destination)

32-36 gas oil, dark	2.25 – 2.375	2.375– 2.50	2.375– 2.50
32-36 gas oil, straw	2.25 – 2.375	2.375– 2.50	2.375– 2.50
14-16 fuel oil (per bbl.)	$0.55 –$0.65	$0.60 –$0.675	$0.60 –$0.675

ARKANSAS (Ark., N. La. and Miss. destination)

32-36 gas oil, straw	2.25 – 2.375	2.25 – 2.50	2.25 – 2.50
32-36 dark gas oil	2.25 – 2.375	2.25 – 2.50	2.25 – 2.50
28-30 gas oil	2.125– 2.25	2.125– 2.25	2.125– 2.25
20-24 fuel oil (per bbl.)	$0.75	$0.75	$0.75
9-12 fuel oil (per bbl.)	$0.525–$0.575	$0.65	$0.65
Black oil	3.00 – 3.25	3.25	3.25

CALIFORNIA (F. o. b. San Joaquin Valley. Nominal pipe line charge to San Francisco 24c per bbl. more and to San Pedro 20c per bbl. more.)

14-18 fuel oil (per bbl.)	$0.35 –$0.50	$0.35 –$0.50	$0.35 –$0.50
14-18 Bunker oil (per bbl.)	$0.55 –$0.80	$0.55 –$0.80	$0.55 –$0.80
30-34 gas oil (per bbl.)	$0.65 –$0.80	$0.70 –$0.80	$0.70 –$0.80
27 Plus Diesel oil (per bbl.)	$0.65 –$0.75	$0.70 –$0.80	$0.70 –$0.80

PETROLATUMS

PENNSYLVANIA (Per pound, in barrels, carload lots, f. o. b. Penna. refinery. In tank cars ⅝c to ¾c per pound less.) Two refiners quoting.

Snow White	6.50 – 7.25	6.50 – 7.25	7.00 – 7.25
Lily White	5.125– 6.00	5.125– 6.00	6.125– 6.25
Cream White	4.125– 5.00	4.125– 5.00	5.125– 5.25
Light Amber	2.625– 3.00	2.625– 3.00	2.875– 3.00
Amber	2.375– 2.75	2.375– 2.75	2.625– 2.75
Red	1.875– 2.50	1.875– 2.50	2.00 – 2.50

PETROLEUM COKE

****OKLAHOMA** (F. o. b. Oklahoma refineries)

(Per ton in car lots)

Lump	$4.50 –$5.00	$4.50 –$5.00	$4.50 –$5.00
Still run	$3.00	$3.00	$3.00
Breeze	$2.00	$2.00	$2.00

****Prices represent Quotations and Sales**

I. C. C. Hears Little of Progress In Revising Oil Freight Rates

WASHINGTON, April 27

LITTLE information has been received by the Interstate Commerce Commission about the activities of the railroad freight tariff makers as to the progress or lack of it, they have been making with tariffs intended to bring into effect the revision of rates on petroleum products ordered to be made 120 days from February 16. (NATIONAL PETROLEUM NEWS, Feb. 18, p. 19). In the routine required by the law tariffs on the subject will be due in Washington by the middle of May, which is not far away.

While there is little information there a large surmise to the effect that in the final analysis there will be few increases proposed, although the reports issued on Feb. 16, afford latitude to the railroads to make an upward revision. They will have to make the reductions required, unless they can persuade the regulating body to change its mind.

The decisions were based on records more than four years old at the time they were made. Since that time there has been such a change in the petroleum industry and in the railroad industry as well that, in the eyes of many, the data then gathered are not much more pertinent to things as they are today than Egyptian hieroglyphics decipherable with the aid of the Rosetta stone found in the course of Napoleon's invasion of that old land.

Few petitions for reopening or modification of the decisions have been received. In the case pertaining to rates within the southeast only three petitions have been submitted, one by The Texas Co. and the others by chambers of commerce at Pensacola and Mobile. The Texas Co. charges among other things that the decision gives to the companies of the Standard group advantages over it greater than that group asked for or expected to receive.

In view of the fact that hundreds of formal complaint cases were disposed of in the two decisions the filing of so few petitions for changes is surprising, unless it be assumed that, on account of the change in conditions, interest in the decisions is at a minimum. There is time remaining, however, in which representations may be made.

The fact is that in the southeast and between the southeast and that part of the country north of the Ohio and Potomac rivers so many ways of obtaining petroleum products, other than by railroad, exist that it is considered doubtful whether the railroads can find objections to the reductions ordered. They know that if they take the increases permitted by the reports, they run the danger of losing business, reducing their revenues far more than the increases they might obtain at a few points.

In the southwest the railroads have been considering cuts much more seriously than increases. There is hardly a day on which proposals are not made there to shave rates either to meet existing or prospective pipeline competition. Refined product rates are affected by crude pipeline competition through the representations coming from refiners not able to get crude at rates low enough to enable them to meet competition supposed to result from favorable crude line rates.

The fight against putting in a 20 cent rate on crude from the east Texas field to Mississippi River refining points, it is believed, illustrates the situation in which the railroads find themselves. They feel that they must do something to keep traffic to their rails, even if, as the Shell Petroleum Corporation argued in its objections to that 20 cent crude rate, the establishment of a crude rail rate threatens the whole petroleum rate structure.

Washington knows practically nothing about the effect of the rates on gasoline produced by the Great Lakes pipeline scheme of rates which caused it to drop its jaw when its first tariff was filed, soon after the decisions in the two proceedings on Feb. 16. It has noted the fact that the company has filed two supplements to its initial tariff, the second of which was placed on the files on April 25. The other supplement, dated earlier, made small additions to the original. The second merely adds West Tulsa as an origin point on April 28, Okmulgee on May 10, and Muskogee on May 15. The new supplement adds Illinois points, such as Wood River and Alton, but not Roxana, to the list of destinations to which gasoline will be carried on the basis of the all-rail rate from the added points of origin.

No figures have been received from either the railroads or the pipeline from which an estimate could be made as to the effect of the pipeline on the tonnage of the railroads. The pipeline is under no obligation to send in figures of that sort for a long time. The railroad figures pertain to the whole traffic of the sort in question and breaking them down so that an estimate could be made would be difficult.

To show the tendency to reduce rather than increase rates the fact may be cited that A. C. Fonda, tariff publishing agent for railroads carrying petroleum and its products to Texas ports, has asked the Interstate Commerce Commission to permit him, on three days' notice, to publish a rate of 15 cents on refined products from the east Texas group (Kilgore, Friar, Tyler, Longview and so forth on the International-Great Northern part of the Missouri Pacific), to Texas ports, in lieu of a rate of 20.5 cents, carried in one of his tariffs.

The railroads propose to give a refined rate from that part of Texas the same as from Shreveport and Ardis, La., to those ports. At the end of March Fonda thought he could make the stuff from the new field pay a higher rate, but in his application for permission to publish the 15 cent rate Fonda said that that could not be done.

New Gasoline Plant In Louisiana

SHREVEPORT, April 25.—Stearns Roger Manufacturing Co. of Denver, recently has completed a forty-five million cubic foot gasoline plant near Athels, La., for the Louisiana-Gas & Fuel Co., Standard Oil Co. of Louisiana and the Triangle Drilling Co. The new plant is known as the "Sugar Creek" plant.

The plant is of the high pressure absorption type operating at pressures of 350 to 500 pounds. It is designed to make any desired commercial grade. The gas carries an average content of one gallon per thousand cubic feet and reaches the plant under well pressure.

To reduce the amount of recompressor capacity necessary to put residue back into the line, the double weathering system is used. Absorber shells are of the hammer-welded type with removable flat heads, and contain the conventional "Oil-Froth" assemblies.

Open type cooling sections are installed in the deckless 40-foot cooling Tower. Steam is supplied by a battery of three water tube Boilers. The residue gas goes to a pipeline system. Both plant and pipeline are provided with "Mist-D-Fier" Scrubbers.

Storage facilities consist of 100,000 gallons of gasoline storage and 25,000 gallons of absorption oil storage at the plant proper, together with 50,000 gallons of additional gasoline storage installed at the loading plant six miles away. This part of the installation includes loading rack, complete vapor handling system, oil pumps etc.

This plant was designed by the J. A. Campbell Co. of Lond Beach, Calif. but built complete by the Stearns Roger company on a turn-key basis.

The same general method of operation used in the large high pressure plant built by this same combination of companies for the Louisiana Gas & Fuel Company, near Alto, Louisiana, was followed in this "Sugar Creek" installation.

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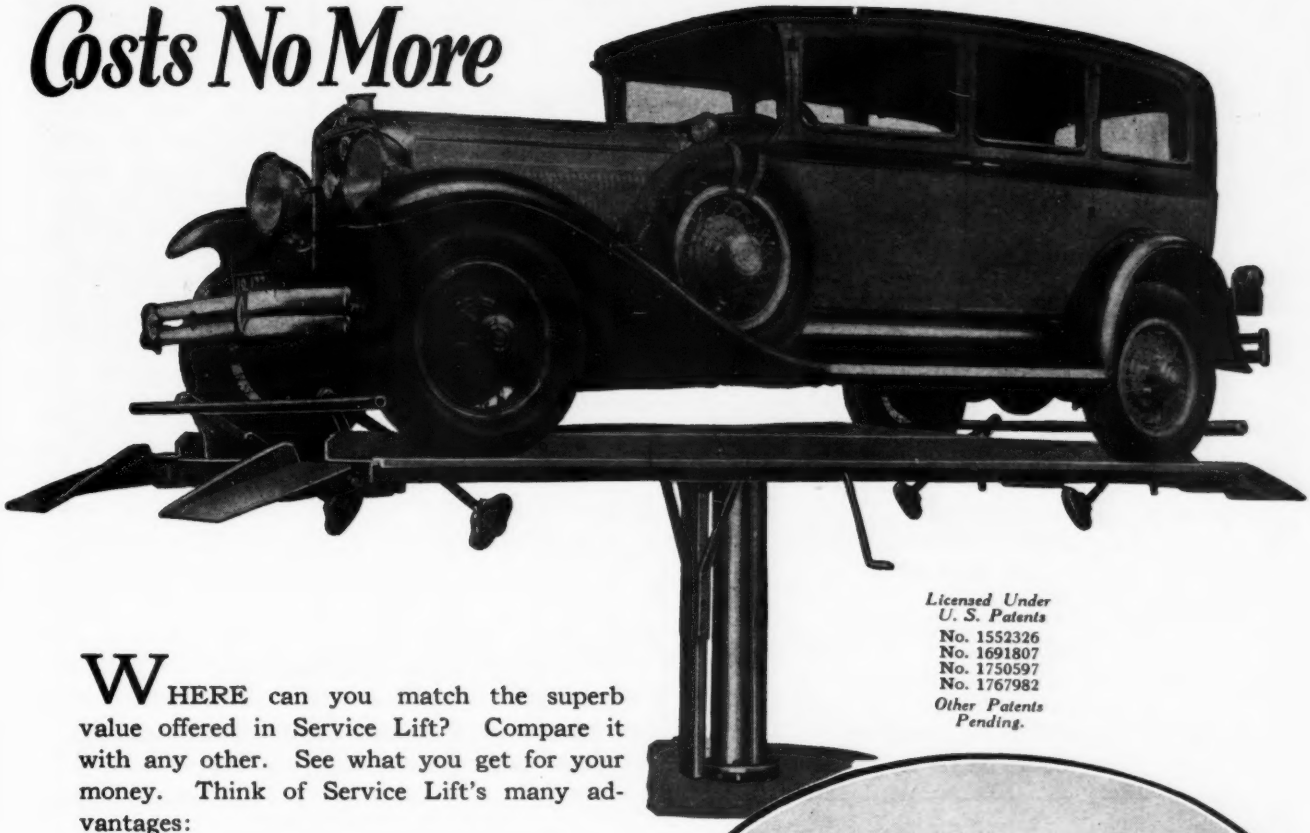

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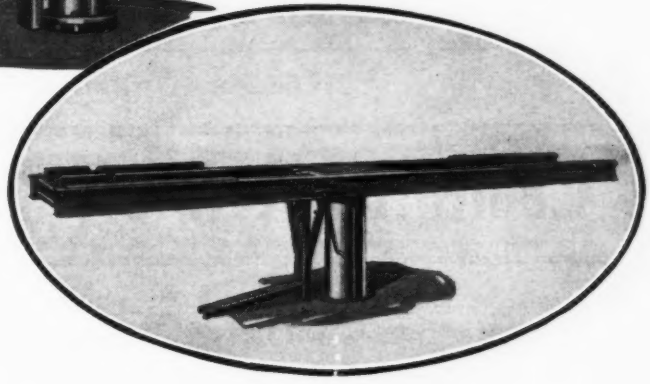

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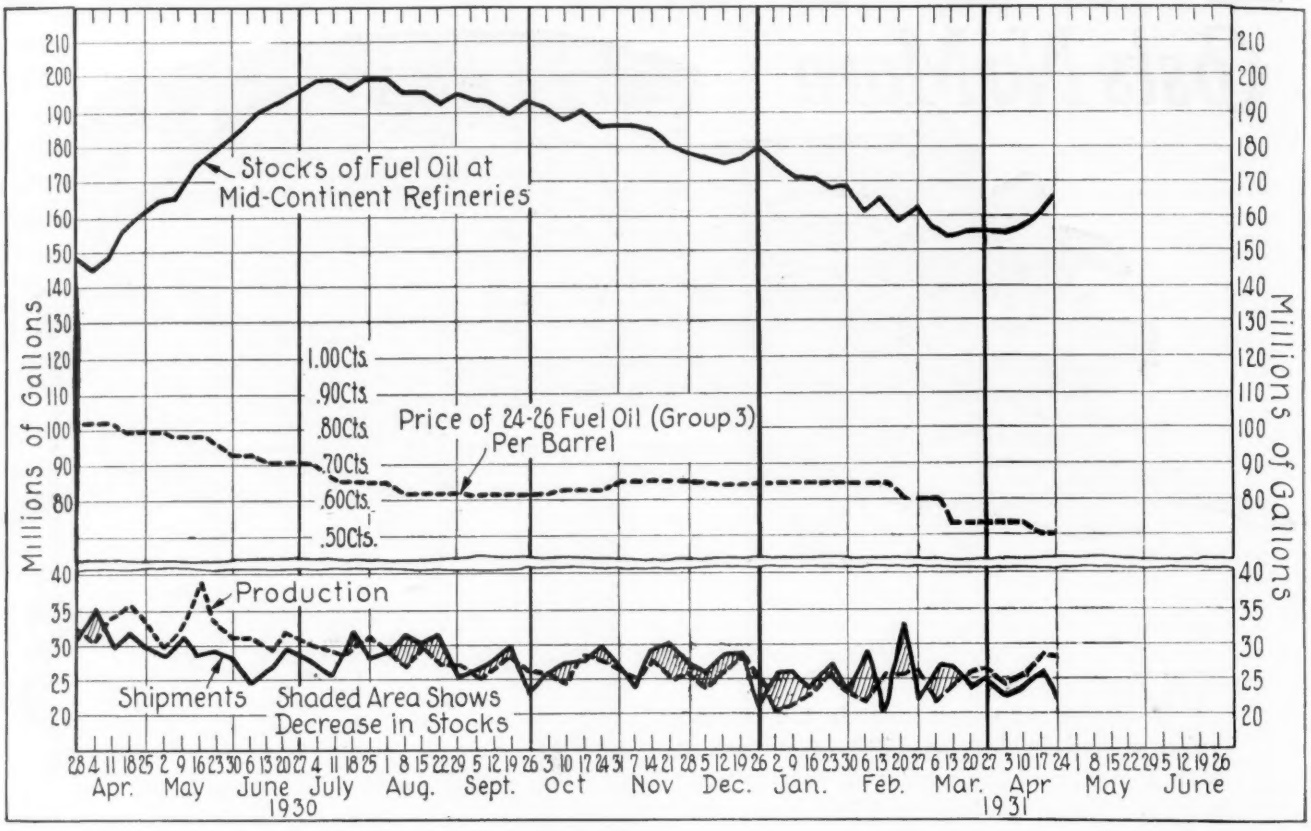
Barometer of Mid-Continent Refinery Market—Week Ending April 24

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, From Reports Made by 93 Plants to National Petroleum News



California Refinery Market

Trading Generally Continues Quiet

LOS ANGELES, April 25

CALIFORNIA markets were practically at a standstill during the week ended April 25. There were a few modifications in prices for domestic goods and gasoline for export was shaded approximately 0.5 cent.

One export trader indicated a cargo of 400 e.p. gasoline could be obtained at 3.875 and possibly at 3.75 cents although there have been no recent sales to substantiate these figures. Buyers from the east coast were reported in the local market seeking cargoes of gasoline and two cargoes of gas oil.

Pacific coast refiners, for the most part, are short of gas oil and quotations were steady at $0.85 to $0.90. Along with continued interest and speculation as to the probable range of quotations for fuel and diesel oil requirements of the U. S. Navy on the west coast, to be opened May 1, the trade was also preparing to quote on approximately 110,000 barrels of fuel oil to the Japanese navy. This oil is scheduled for May and June lifting. The last business with this buyer was closed at $0.72 per barrel.

Fuel oil for bunkering in the San Pedro harbor was reported a shade lower for spot delivery although several suppliers indicated they were still asking $0.60 to $0.62 for pipeline delivery on the dock, or $0.64 to $0.66 via barge.

Reports of this reduction in quotations for bunker oil, which averaged about $0.05 per barrel below the above figures, were in keeping with lower spot prices on tank car fuel oil deliveries. Viscous fuel oil, as from the Playa del Rey field, was reported on the market at less than $0.25 per barrel with better quality goods from other Los Angeles Basin fields freely offered at $0.35 to $0.45 per barrel.

Practically no change was noticed in quotations for U. S. Motor gasoline for spot tank car shipments. For both in-and out-of-state consumption the range was 3 to 4 cents, exclusive of tax. A majority of the sales were made in the neighborhood of 3.50 cents.

On the strength of a possible curtailment of natural gas production in the Kettleman Hills through enforcement of the gas conservation law, quotations for natural gasoline were up approximately 0.50 cent. Generally, the price was 3 to 3.50 cents with a possibility that some gasoline could still be bought at 2.75 cents.

Although gas oil for export was scarce, independent refiners had a considerable quantity on hand that was available at $0.65 to $0.70 for 30-32 gravity oil.

NEW YORK, April 27.—N. B. Musser, Sun Oil Co., Philadelphia, has been appointed chairman of the sub-committee on Marine Corrosion of the American Petroleum Institute. The group will make an intensive study of corrosion and its minimization on oil tankers and barges.

Pennsylvania Markets

Prices Generally Lower

CLEVELAND, April 27.—The trend of prices continued downward in the western Pennsylvania refinery market last week. Practically all commodities, with the exception of cylinder stocks, were quoted lower.

Gasoline was sluggish. Early in the week there were reports from traders of a material improvement in demand. Movement slowed up somewhat as the week advanced, however, and distress offerings then sent the minimum of the U. S. Motor price range down 0.125 cent to 5 cents. The higher gravity gasolines suffered larger losses partially because of the Canadian tariff situation but mostly because of the warmer weather.

So far the spring demand for kerosine has been disappointing, according to trade reports. Prices for all grades were 0.125 cent lower last week with 45 w.w. offered at 4.25 to 4.50 cents.

The demand for fuel oil for cracking also has been slow in getting under way. Industrial demand remained at a standstill. Prices last week were 0.125 cent lower for all grades in the Bradford district. Oil City and Warren district prices were unchanged at 2.75 to 2.875 cents.

Lubricating oils continued to be the most active products of the refined oil list. Neutral oils eased slightly from the tight position they have occupied practically since the first of the year, however. Offerings were somewhat freer and prices were 0.5 cent lower in some quarters. Bright stock was relatively quiet; all grades were offered at 17.50 to 18 cents a gallon.

Refined oil prices generally showed little reaction to the 10 to 20-cent cut in crude prices made late in the week.

Gulf Lube Prices Unchanged

HOUSTON, April 25.—Gulf Coastal lubricants, which have been "on bottom" for weeks, experienced no further recession after a reduction on April 21 of 10 cents per barrel in South Texas crude prices. Manufacturers reported various price schedules applying, but all within the limits of market ranges applying over the last month.

NEW YORK, April 27.—H. C. Weiss, Humble Oil & Refining Co., Houston, has been made a member of the American Petroleum Institute committee on refinery statistics and economics. He succeeds E. T. Moore, Simms Oil Co., Dallas, resigned.

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Eastern Domestic Markets

Bunker Oil Prices Reduced 10 Cents

Staff Special

NEW YORK, April 25

THE principal change in eastern domestic markets during the week ended April 25 was in the fuel oil division. Effective April 23 the Standard Oil Co. of New Jersey reduced its prices for Grade C bunker oil 10 cents at all seaboard ports where the company offers bunkering service. The new price is $0.95 per barrel at Boston, New York, Baltimore, and Norfolk; and at Charleston $0.90 per barrel.

Gasoline markets along the seaboard featured new low prices for U. S. Motor during the early part of the week. The outstanding decline in gasoline prices was in the barge market whereas tank car sales held fairly steady at 6 cents per gallon in the New York, Philadelphia and Baltimore markets.

Reports from the New York trade were of a highly varied nature. Some sellers received orders for barge lots of U. S. Motor at the same price as for tank car lots. Others were asking 5.75 cents for barge lots which was 0.25-cent under the going market for tank cars—and consistent with the 0.25-cent differential between the two modes of delivery which is generally accepted as deeply rooted in the trade customs of the New York market. Still other sellers offered barge lots at 5.50 cents. While the sales at the latter figure created considerable disturbance, they were not general enough to bring about a broad recession in quotations.

As the week ended jobber buying was exceptionally good. Buyers under contract were taking out quantities near their stipulated maxima. Spot activity also was good at the 6-cent price for tank car delivery; some sellers received orders at 6.25 cents.

The Philadelphia gasoline market continued unsettled. An influx of goods from Wilmington via the water route caused considerable apprehension on the part of the Quaker trade. Local suppliers who quoted 6 cents throughout the week noted a marked decline in sales. Barge lots of U. S. Motor were offered in Wilmington at 5.75 cents; and in the light of the present barge rate, gasoline so moved could be delivered at Philadelphia docks for fractionally less than 6 cents. At this writing, Philadelphia suppliers were unwilling to quote under 6 cents, and in some quarters quotations were unchanged at 6.25 cents.

The bunker oil market at Philadelphia was reported to be none too secure at the posted price of $0.95 per barrel. Competition was still keen and stocks were large.

The Baltimore gasoline market held its own the past week. Sales and quotations for U. S. Motor were consistently reported at 6 cents, and barge lots were offered at 5.75 cents for resale at 6 cents. A greater tendency to adhere to one price was noted in this market than in weeks past.

Spot activity in the Boston market was fair while gasoline purchased under contract was in good volume according to New England suppliers. The local sellers, however, were forced to compete in some instances with barge shipments from New York harbor. Regular U. S. Motor was quoted at 7 cents at Portland, and 6.75 cents at Boston and Providence—all prices f.o.b. terminals and refineries.

There was little demand for water white kerosine at New York harbor the past week. This material was offered freely at 5.75 cents.

Gulf Coast Markets

Cargo Markets Featureless

Staff Special

NEW YORK, April 25

BULK markets at the Gulf were featureless except for the reduction in the price of bunker oil by the Standard Oil Co. of New Jersey.

Effective April 24 the company reduced its price 10 cents to $0.80 per barrel at all gulf ports except Sabine, where the price was reduced to $0.90.

Indications as to prices for the various grades of gasoline reflected a tendency on the part of the Rumanian and American markets to come into line. It was reported on good authority that Rumanian suppliers had raised their prices a 0.50 cent although their quotations still were lower than American prices.

A cargo of 68-70, 375 end point gasoline was offered at 4.50 cents to the export trade early in the week, but as yet no buyer seemed to be interested. While this price was 1 cent under the posted prices of the majority of sellers for 375 end point gasoline there was said to be a few details as to quality which rendered this material objectionable.

An inquiry for a cargo of gas oil was reported in this market last week, but the order was placed on the Continent before American suppliers had a chance to quote. It was said that Rumanian gas oil was available at 2.35 cents.

There were no inquiries for cased goods reported. The inquiries reported last week for 12,000 cases of U. S. Motor and 10,000 cases of kerosine resulted in no actual business as far as could be learned at the present writing. Prices for cased goods remain generally unchanged.

Venezuela Crude

Little activity was noted in the market for Venezuela crude the past week. Although no sales were reported, traders conversant with this market were of the opinion that this material could be had for $0.70 per barrel, f.o.b. deepwater in the Lake Maracaibo region.

Panuco Crude

The market for Panuco crude was quiet. No sales were reported. The price for this oil was reported to be $0.46 per barrel, f.o.b. Tampico.

Wax Markets

Trading Dull

NEW YORK, April 25.—Prices for scale and fully refined waxes were under pressure the past week in both the New York and New Orleans markets. While little change was noted in prices for scale, the fully refined grades with lower melting points were quoted an 0.125-cent lower.

The market generally was dull although there were a few inquiries for lots of 10 to 20 tons for prompt shipment to the United Kingdom and South America. Domestic buyers were reported to have offered lower prices for scale wax, but in most instances suppliers were asking 2.10 cents per pound.

Refinery Finishes Year Without Lost-Time

HOUSTON, April 23.—An indication of the results to be accomplished by organized safety effort is given in the announcement of Shell Petroleum Corp. that its Houston ship channel refinery, on April 13, completed 1,000,000 man-hours of operation without experiencing an accident sufficient to cause any time-loss whatsoever.

Hours of exposure covered a period of 269 days, from July 18, 1930, to April 13, 1931, and represented employment of approximately 500 men. The company announcement says a keen sense of satisfaction can be justifiably felt as a result of performance of this kind.

While the dissemination of Safety information is handled in the customary manner, through the medium of safety committees composed of representatives of various departments, the company's entire procedure is predicated not alone upon co-operation but also upon individual responsibility.

Every Shell employe is impressed with the fact that individual responsibility must be assumed by him personally and cannot be delegated to another; also that safe workmanship is synonymous with efficient workmanship.

"The ultimate objective of any safety campaign," say the announcement, "is to continue indefinitely without a lost time accident. There are, however two immediate objectives which are occupying the attention of the Houston refinery, namely, to complete the first six months of 1931 without a lost time accident and to win the National Safety contest for the manufacturing division of the petroleum industries and complete the full operating year to July 18, 1931, with a clean record."

R. B. High is plant superintendent at the Shell's Houston refinery, and P. E. Keegan is safety engineer.

Robinson Rejoins Phillips

TULSA, April 25.—A. H. Robinson, formerly division manager for the marketing department of Phillips Petroleum Co. and later in charge of lubrication sales for that company, is now located in Bartlesville where he is in charge of bulk lubricating oil sales for Phillips.

Mr. Robinson resigned his position last fall and went to the west coast where he spent the winter. He returned only recently to Oklahoma to become affiliated again with the Phillips company.

WICHITA—George N. Weber, who was graduated from the University of Kansas in January, is now chief chemist for the Derby Oil Co. He succeeded W. L. Owen, who went with the Wilcox Oil & Gas Co. at Pampa, Tex.

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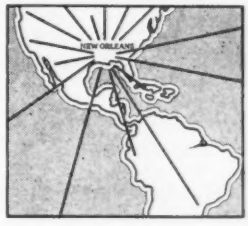

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Complete Seaboard Market

(Export Markets for whole year given in OIL HANDBOOK. Each volume carries refinery, tank wagon, crude and export markets—complete for the whole year)

Eastern Domestic Market

(Prices for tank car lots, f. o. b. refinery or seaboard terminal, representing majority of sales and quotations. Prices shown below do not include inspection tax levied in Florida and South Carolina.)

	Prices April 27	Prices April 20	Prices April 13
U. S. MOTOR GASOLINE			
New York harbor	6.00 – 6.25	6.00 – 6.25	6.00 – 6.50
Portland district	7.00	7.00	7.00
Boston district	6.75	6.75	6.75
Providence district	6.75	6.75	6.75
Philadelphia district	6.00 – 6.25	6.00 – 6.25	6.25 – 6.50
Baltimore district	6.00 – 6.25	6.00 – 6.25	6.00 – 6.50
Norfolk district	6.50	6.50	6.50
Charleston district	6.50	6.50	6.50
Savannah district	6.50	6.50	6.50
Jacksonville district	6.50	6.50	6.50
CALIFORNIA U. S. MOTOR GASOLINE			
New York harbor	6.00 – 6.25	6.00 – 6.25	†6 50
Philadelphia district	6.00 – 6.25	6.00 – 6.25	†6.50
Baltimore district	6.00 – 6.25	6.00 – 6.25	†6.50
‡DOMESTIC AVIATION GASOLINE			
New York harbor	10.00 –12.00	10.00 –12.00	10.00 –12.00
Philadelphia	10.00 –12.00	10.00 –12.00	10.00 –12.00
Baltimore	11.00 –12.00	11.00 –12.00	11.00 –12.00
Boston	11.50 –13.00	11.50 –13.00	11.50 –13.00

‡Prices are based on U. S. Gov't. specifications or better. Present Gov't. specifications require distillation range of 5% recovery at not more than 167°F. and not less than 122°F.; 50% recovery at 221°; 90% at 311°; 96% at 347° end point 374°F. Gasoline of fighting grade specifications in some instances sells at a premium over domestic aviation grade. Prices represent majority of quotations.

WATER WHITE KEROSINE			
New York harbor	5.75 – 6.00	5.75 – 6.00	5.75 – 6.00
Philadelphia district	6.00	6.00	6.00
Baltimore district	6.00	6.00	6.00
GAS OIL: 28-34 Gravity			
New York harbor	4.50	4.50	4.50
Boston district	4.50	4.50	4.50
FURNACE OIL: 36-40 Gravity			
New York harbor	5.50	5.50	5.50
Boston district	5.50	5.50	5.50
GRADE C BUNKER OIL (Lighterage 5c per bbl. additional)			
New York harbor	$0.95	$1.05	$1.05
Boston district	$0.95	$1.05	$1.05
DIESEL OIL			
New York harbor	$1.75	$1.75	$1.75

†Nominal.

New York Export Market

(Lubricating oils are per gal. in bbls. f.a.s. New York)

	April 27	April 20	April 13
CYLINDER OILS (Pennsylvania Products)			
Bright stock, No. 8 color	24.50 –25.00	24.50 –25.00	23.50 –25.00
Bright stock, No. 6½ color diluted	23.50 –24.00	23.50 –24.00	22.50 –24.00
600 D filtered	22.50 –25.00	22.50 –25.00	22.50 –25.00
600 Warren E filtered	18.00 –21.00	18.00 –21.00	18.00 –21.00
600 stm. refd. unfiltered	14.50 –16.00	14.50 –16.00	14.50 –16.00
650 stm. refd. unfiltered	18.00 –20.00	18.00 –20.00	18.00 –20.00
600 flash steam refined	18.50 –20.00	18.50 –20.00	18.50 –20.00
630 flash, steam refined	24.00 –26.00	24.00 –26.00	24.00 –26.00
RED PARAFFIN OILS (Vis. 100°)			
300 vis. No. 6½ color	17.00 –20.00	17.00 –20.00	17.00 –20.00
250 vis. No. 6 color	16.50 –17.50	16.50 –17.50	16.50 –17.50
200 vis. No. 6 color	14.75 –17.00	14.75 –17.00	14.75 –17.00
PALE PARAFFIN OILS (Vis. 100°)			
230 vis. No. 3¼ color	21.50	21.50	21.50
180 vis. No. 3¼ color	18.00 –20.00	18.00 –20.00	18.00 –20.00
100 vis. No. 2¼ color	12.50 –15.00	12.50 –15.00	12.50 –15.00

Wax Market

(Melting points are A.M.P. method. Prices in cents per pound, f.a.s. carload lots.)

NEW YORK	April 27	April 20	April 13
124-126 Yellow crude scale	2.00	2.10	2.15
122-124 White crude scale	2.10 – 2.15	2.10 – 2.15	2.20
124-126 White crude scale	2.10 – 2.15	2.10 – 2.15	2.20
123-125 Fully refined	3.125– 3.25	3.25	3.25
125-127 Fully refined	3.125– 3.25	3.25	3.25
128-130 Fully refined	3.25 – 3.375	3.375– 3.50	3.375– 3.50
130-132 Fully refined	3.50 – 3.625	3.50 – 3.625	3.50 – 3.625
133-135 Fully refined	4.25 – 4.375	4.375– 4.50	4.375– 4.50
135-137 Fully refined	4.625	4.625	4.625
NEW ORLEANS			
124-126 Yellow crude scale	2.00	2.10	2.15
122-124 White crude scale	2.10 – 2.15	2.10 – 2.15	2.20
124-126 White crude scale	2.10 – 2.15	2.10 – 2.15	2.20
123-125 Fully refined	3.125– 3.25	3.25	3.25
125-127 Fully refined	3.125– 3.25	3.25	3.25
128-130 Fully refined	3.25 – 3.375	3.375– 3.50	3.375– 3.50
130-132 Fully refined	3.50 – 3.625	3.50 – 3.625	3.50 – 3.625
133-135 Fully refined	4.25 – 4.375	4.375	4.375

Gulf Coast Bulk Market

(Prices are f. o. b. Gulf oil terminals representing sellers' opinions covering bulk shipments of 20,000 barrels or more, for export and / or coastwise shipment unless otherwise noted.)

GASOLINE	Prices April 27	Prices April 20	Prices April 13
U. S. Motor	4.50	4.50	4.50
60-62, 400 e.p.	5.00	5.00	5.00
61-63, 390 e.p.	5.25	5.25	5.25
64-66, 375 e.p.	5.50	5.50	5.50
U. S. Motor, (cases cargoes)	$1.60	$1.60	$1.60
64-66, cases (cargoes)	$1.70 –$1.72	$1.70 –$1.72	$1.70 –$1.72
KEROSINE			
44 water white	5.00	5.00	5.00
41-43 prime white	4.00	4.00	4.00
Water white, cases (cargoes)	$1.40	$1.40	$1.40
Prime white, cases (cargoes)	$1.30	$1.30	$1.30
GAS & BUNKER OILS			
*26-30 translucent gas oil	3.00	3.00	3.00
*30 plus translucent gas oil	3.00	3.00	3.00
Grade C bunker oil, for ships' bunkers, per bbl.	$0.80	$0.90	$0.90
Grade C bunker oil, per bbl. in cargoes	$0.60 –$0.65	$0.60 –$0.65	$0.62 –$0.65

*Less than ½ of 1% sulphur.
†Represents sales only.

MEXICAN CRUDE AND BUNKER OILS (f. o. b. Steamer, Tampico)			
Heavy Panuco crude taxes to be paid, per bbl.	$0.46	$0.46	$0.46
Grade C bunker oil for bunkering, taxes paid, per bbl.	$0.90	$0.90	$0.90
VENEZUELA CRUDE			
F. o. b. deepwater, Lake Maracaibo region	$0.70 –$0.76	$0.70 –$0.76	$0.72 –$0.76
SOUTH TEXAS LUBRICATING OILS (Viscosity at 100°F cold test 0 Tanker, f. o. b. Gulf oil terminals.)			
100 vis. No. 2 unfiltered pale	4.75 – 5.75	4.75 – 5.75	4.75 – 5.75
200 vis. No. 3 unfiltered pale	6.75 – 8.25	6.75 – 8.25	6.75 – 8.25
300 vis. No. 3 unfiltered pale	7.75 – 9.50	7.75 – 9.50	7.75 – 9.50
500 vis. No. 3½ unfiltered pale	8.75 –10.50	8.75 –10.50	8.75 –10.50
750 vis. No. 4 unfiltered pale	10.25 –12.75	10.25 –12.75	10.25 –12.75
1200 vis. No. 4 unfiltered pale	14.00 –16.00	14.00 –16.00	14.00 –16.00
200 vis. No. 5-6 red oil	6.00 – 6.75	6.00 – 6.75	6.00 – 6.75
300 vis. No. 5-6 red oil	7.00 – 7.75	7.00 – 7.75	7.00 – 7.75
500 vis. No. 5-6 red oil	7.50 – 9.00	8.00 – 9.00	8.00 – 9.00
750 vis. No. 5-6 red oil	9.25 –11.50	9.25 –11.50	9.25 –11.50
1200 vis. No. 5-6 red oil	13.00 –15.00	13.00 –15.00	13.00 –15.00

Pacific Export Market

(Quotations are at seaboard, Los Angeles, in cargo lots, cents per gallon, except where otherwise noted.)

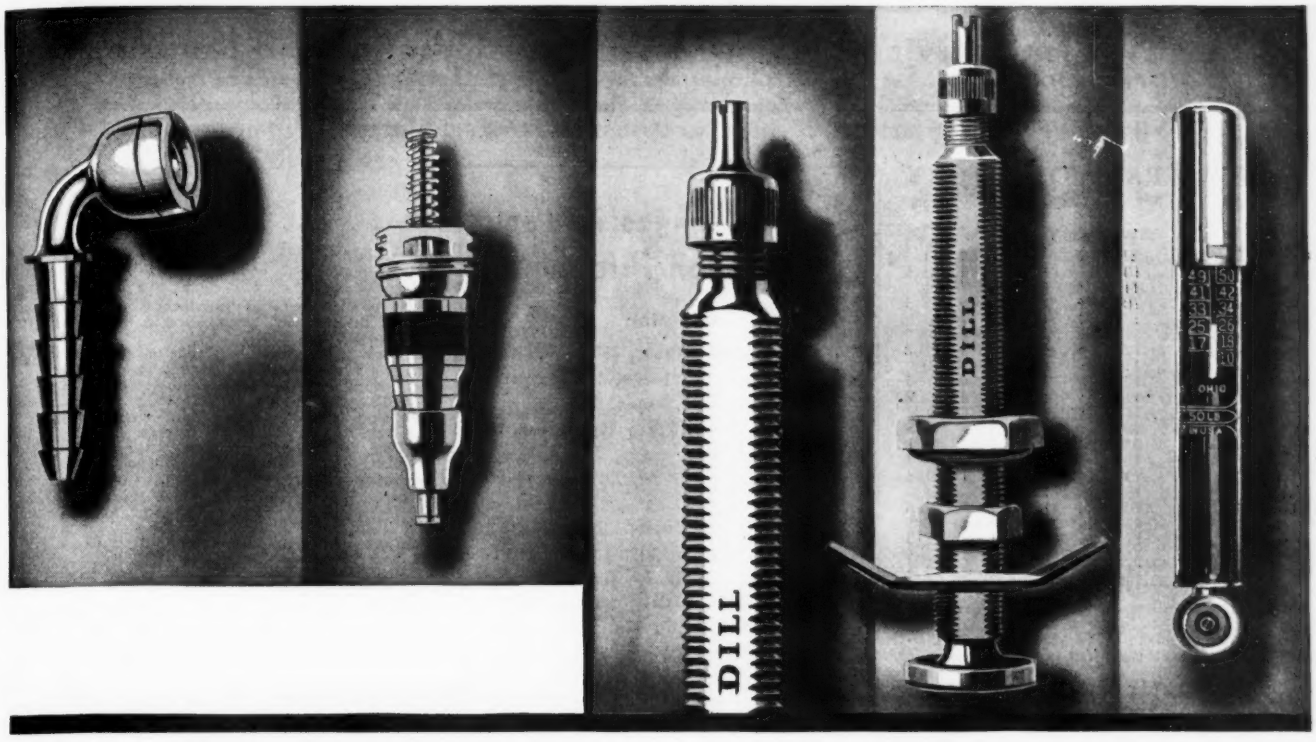
	April 27	April 20	April 13
Gasoline, U. S. Motor, 53-55 Gravity	3.50 – 4.25	3.50 – 4.50	3.75 – 4.50
Gasoline, U. S. Motor-blends and special cuts	4.25 – 4.75	4.25 – 4.75	4.25 – 4.75
Gasoline, 400 e.p. blend	4.50 – 5.00	4.75 – 5.25	4.75 – 5.25
Gas Oil, 30-34 per bbl.	$0.85 –$0.90	$0.80 –$0.90	$0.80 –$0.90
Diesel Oil, 27 plus, per bbl.	$0.85 –$0.90	$0.80 –$0.90	$0.80 –$0.90
Bunker oil, 14-18 per bbl.	$0.55 –$0.70	$0.62 –$0.72	$0.62 –$0.72
Fuel oil, 14-18 per bbl.	$0.55 –$0.80	$0.55 –$0.70	$0.55 –$0.70
Kerosine, 38-40 w.w., 125-150 flash, per gal.	4.25 – 4.75	4.00 – 4.50	4.00 – 4.50
Cased Goods			
Gasoline, U. S. Motor	$1.45 –$1.55	$1.45 –$1.55	$1.45 –$1.55
Gasoline, 400 e.p. blend	$1.55 –$1.65	$1.55 –$1.65	$1.55 –$1.65
Kerosine, 38-40 w.w., 125-150 flash	$1.40 –$1.45	$1.40 –$1.45	$1.40 –$1.45

Tanker Rates

(Approximate tanker freight rates to Continental ports, in shillings per ton of 2240 pounds, British sterling; to American ports, cents per barrel.)

	April 27	
	Crude &/or Fuel	Refined Oil &/or Spirits
Calif. to U. K. or Continental ports*	21	18
Gulf to U. K. or Continental ports*	10-11	†10
North Atlantic to U. K. or Continental ports*	9/6	†8/6
Calif. to North Atlantic ports (not E. of N. Y.)	$0.45-$0.50	$0.45-$0.50
Gulf to North Atlantic ports (not E. of N. Y.)**	14-15	15

*Continental ports in the range between Bordeaux and Hamburg, both inclusive. **Venezuela loading same rate, for Tampico 2c to 3c per bbl. additional. †Two ports discharged.



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Leading jobbers and tire companies are supplying Dill Tire Valves and Accessories to those dealers, garages, and service stations that are particular about the kind of service they render.

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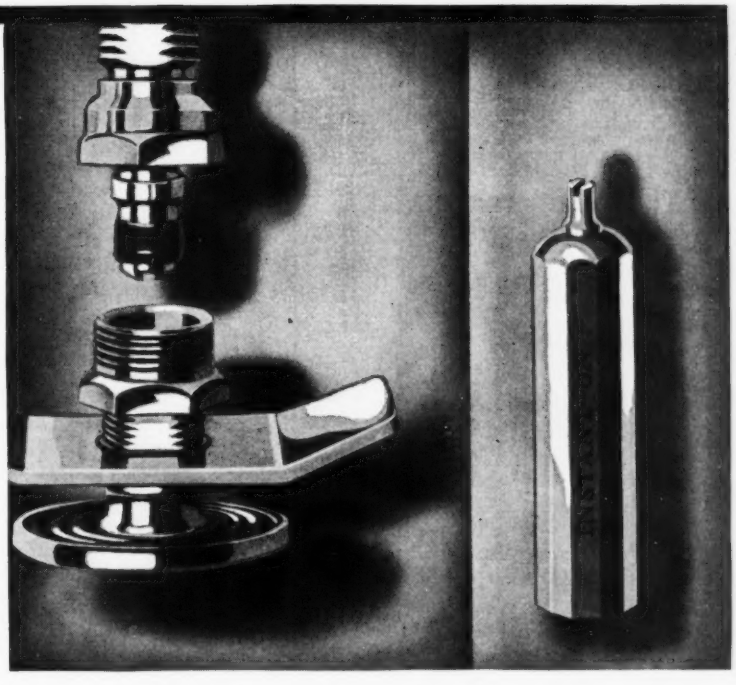

The Dill Modern Line includes tire valves, valve insides, caps, gauges, and air chucks — complete equipment for servicing these fine up-to-date tires.

DILL

Tank Wagon, Service Station Markets for Gasoline and Kerosine

(OIL PRICE HANDBOOK has t.w. and s.s. markets for a whole year, arranged for quick reference)

These Prices in Effect April 27, 1931, as Posted by Principal Marketing Companies

S.O.NEW JERSEY TERRITORY

	Gasoline T.W.	Tax	Gasoline Total T.W.	S.S.	Oil T.W.
Atlantic City, N. J.	11.2	3	14.2	16.2	11.5
Newark, N. J.	10.2	3	13.2	15.2	10.5
Annapolis, Md.	11.7	4	15.7	16.7	11
Baltimore, Md.	10.9	4	14.9	15.9	9.5
Cumberland, Md.	12.7	4	16.7	17.7	12
Washington, D. C.	11.4	2	13.4	14.4	10
Danville, Va.	12.5	5	17.5	18.5	11.8
Norfolk, Va.	11	5	16	17	10
Petersburg, Va.	12	5	17	18	11.3
Richmond, Va.	11.4	5	16.4	17.4	10.7
Roanoke, Va.	12.7	5	17.7	18.7	12
Charleston, W. Va.	12.2	4	16.2	17.2	11.5
Keyser, W. Va.	12.8	4	16.8	17.8	12.1
Parkersburg, W. Va.	10.9	4	14.9	15.9	10.2
Wheeling, W. Va.	12.1	4	16.1	17.1	11.4
Charlotte, N. C.	13	6	19	20	11
Hickory, N. C.	13.3	6	19.3	20.3	12.6
Mt. Airy, N. C.	13.2	6	19.2	20.2	12.5
Raleigh, N. C.	12.9	6	18.9	19.9	12.2
Salisbury, N. C.	13.2	6	19.2	20.2	12.5
Charleston, S. C.	11	6	17	18	10.3
Columbia, S. C.	12.9	6	18.9	19.9	12.2

Note: 2c per gallon discount off retail t.w. price of gasoline to dealers thru S. O. New Jersey territory, except Maryland and Washington, D. C. where discount is 3c.

S. O. NEW YORK

Greater New York City: Boroughs of Manhattan, Bronx, Queens & Kings	11.3	2	13.3	15.3	10
Borough of Richmond	11.7	2	13.7	15.7	12
Albany, N. Y.	12.6	2	14.6	16.6	10.5
Buffalo, N. Y.	11.8	2	13.8	15.8	10
Rochester, N. Y.	12	2	14	16	10
Syracuse, N. Y.	12.8	2	14.8	16.8	10.5
Boston, Mass.	11.5	2	13.5	15.5	11
Augusta, Me.	12.8	4	16.8	18.8	12.8
Manchester, N. H.	12.4	4	16.4	18.1	11
Burlington, Vt.	13.3	4	17.3	19.3	11
New Haven, Conn.	12.6	2	14.6	16.6	10
Providence, R. I.	11.7	2	13.7	15.7	11

Discounts on gasoline: 2c per gal. off posted t. w. price to dealers, thru territory, except 3c to dealers inNew York City, effective Feb. 20, 1931.

ATLANTIC REFINING

Pittsburgh, Pa.	12	*	12	17	12
Philadelphia, Pa.	12	*	12	17	12
Allentown, Pa.	12	*	12	17	12
Erie, Pa.	12	*	12	17	10
Scranton, Pa.	12	*	12	17	12
Altoona, Pa.	12	*	12	17	12
Dover, Del.	12	3	15	17	12
Wilmington, Del.	12	3	15	17	12
Boston, Mass.	11.5	2	13.5	15.5	11
Springfield, Mass.	12.5	2	14.5	16.5	11
Worcester, Mass.	12.3	2	14.3	16.3	11
Fall River, Mass.	12.1	2	14.1	16.1	11
Providence, R. I.	11.7	2	13.7	15.7	11
Hartford, Conn.	12.5	2	14.5	16.5	10
New Haven, Conn.	12.6	2	14.6	16.6	10
Atlantic City, N. J.	11.2	2	13.2	16.2	11.5
Camden, N. J.	10.3	2	12.3	15.3	10.6
Trenton, N. J.	10.7	2	12.7	15.7	11
Annapolis, Md.	11.7	4	15.7	16.7	11
Baltimore, Md.	10.9	4	14.9	15.9	9.5
Hagerstown, Md.	12.4	4	16.4	17.4	11.7
Richmond, Va.	11.4	5	16.4	17.4	10.7
Wilmington, N. C.	11.4	6	17.4	18.4	10.4
Brunswick, Ga.	12	6	18	20	**14
Jacksonville, Fla.	11	6	17	19	12

Note: 2c per gal. discount off t.w. price of gasoline on sales to dealers; discount to commercial accounts under contract for one year in accordance with Code of Ethics.

*3-cent state tax is collected by retail dealer and paid by him directly to state.

**Georgia kerosine prices include 1c state tax.

S. O. KENTUCKY

Lexington, Ky.	12	5	17	18	12
Louisville, Ky.	11	5	16	17	11
Paducah, Ky.	12	5	17	18	11
Covington, Ky.	11	5	16	17	11
Jackson, Miss.	10	5	15	13	11.5
Vicksburg, Miss.	11	5	16	18	11.5
Birmingham, Ala.‡‡	13	4	17	19	13
Mobile, Ala.‡	13	4	17	19	13
Montgomery, Ala.*	13	4	17	17	13.5
Macon, Ga.	12	6	18	18	†13
Atlanta, Ga.	10	6	16	18	*†12.5
Augusta, Ga.	12	6	18	20	†14
Savannah, Ga.	12	6	18	18	†12
Jacksonville, Fla.	11	6	17	19	12
Miami, Fla.	12	6	18	20	13
Tampa, Fla.	11	6	17	17	12
Pensacola, Fla.**	10	6	16	18	13

Note: Net price of gasoline to dealers is 2c under posted t.w. price thru S. O. Kentucky territory.

*Local privilege tax of 1 cent on gasoline and ½ cent on kerosine at Montgomery included.

†Georgia kerosine prices include 1c state tax.

**Both tank wagon prices include 1c city tax at Pensacola which went into effect Oct. 15, 1926.

‡Mobile gasoline prices include 1c city tax.

‡‡Birmingham gasoline prices include 1c city tax.

*†3c discount off t.w. price of oil at Atlanta, meeting competition.

S. O. OHIO

Ohio statewide	12	4	16	17	13
Defiance, Hancock, Marion and Wyandot counties	12	4	16	16	13

Note: Discount on gasoline to dealers and commercial consumers generally thru Ohio is 2c per gal. off above t.w. prices.

Discount on kerosine to dealers and commercial consumers is 3c per gal. off t.w. price thru Ohio.

S. O. INDIANA

Chicago, Ill.	11	3	14	14	9
Decatur, Ill.	11.4	3	14.4	14.4	9
E. St. Louis, Ill.	10.7	3	13.7	13.7	8.2
Joliet, Ill.	11.4	3	14.4	14.4	9
Peoria, Ill.	11.4	3	14.4	14.4	9
Quincy, Ill.	11.2	3	14.2	14.2	8.8
Springfield, Ill.	11.4	3	14.4	14.4	9
Indianapolis, Ind.	11.3	4	15.3	15.3	10.1
Evansville, Ind.	11.1	4	15.1	15.1	9.9
South Bend, Ind.	11.4	4	15.4	15.4	10.2
Detroit, Mich.	11.8	3	14.8	14.8	10.7
Grand Rapids, Mich.	11.7	3	14.7	14.7	10.6
Saginaw, Mich.	11.9	3	14.9	14.9	10.8
Green Bay, Wisc.	11.6	4	15.6	15.6	9.4
Madison, Wisc.	11.3	4	15.3	15.3	9.1
Milwaukee, Wisc.	11.1	4	15.1	15.1	8.9
La Crosse, Wisc.	12.2	4	16.2	16.2	10
Minneapolis, Minn.	12.2	3	15.2	15.2	9.9
Duluth, Minn.	12.5	3	15.5	15.5	9.9
Mankato, Minn.	10.1	3	13.1	15	9.7
Des Moines, Ia.	9.5	3	12.5	13.5	9.3
Davenport, Ia.	11.5	3	14.5	14.5	9.3
Sioux City, Ia.	9.1	3	12.1	13.1	8.9
Mason City, Ia.	11.5	3	14.5	14.5	9.3
St. Louis, Mo.	*10.9	2	12.9	12.9	8.3
Kansas City, Mo.	†11.9	2	13.9	13.9	7.6
St. Joseph, Mo.	†11.5	2	13.5	13.5	7.5
Fargo, N. D.	12	3	15	16	11.9
Grand Forks, N. D.	14.2	3	17.2	17.2	12.2
Minot, N. D.	13.9	3	16.9	16.9	11.9
Pierre, S. D.	12	4	16	16	10.4
Huron, S. D.	12.3	4	16.3	16.3	10.7
Wichita, Kans.	9.8	3	12.8	12.8	7.8
Bartlesville, Okla.	8	5	13	16	7.5

*Includes city tax of ½c.

†Includes city tax of 1c.

Discounts: Old Q. D. A. on gasoline now in effect (new one to become effective around May 11):

2c per gal. off t. w. price for 1,000 gals. or more per month, thru territory, except Chicago; and 3c per gal. off t. w. for 1,000 gals. or more per month in Chicago.

New Q. D. A., to become effective around May 11, 1931, on gasoline in any quantity, thru territory, except Chicago, discount off s. s. price:

To re-sellers only: on Ethyl gasoline, 3c per gal. off s.s. price; Red Crown, 2.5c per gal.; and on Stanolind Blue gasoline, 1c per gal. In Chicago, discounts are 1c higher in each instance than those shown above.

To consumers: same discounts as above for territory and Chicago, except discounts are based off tank wagon price, and affect purchases of 1,000 gallons or more per month.

S. O. NEBRASKA

Omaha, Neb.	11.25	4	15.25	16.25	9.25
McCook	12	4	16	17.75	10.75
Norfolk	11.75	4	15.75	16.75	9.75
North Platte	12.75	4	16.75	17.75	10.5
Scottsbluff	12	4	16	16	10.25

Note: Discounts: 1c per gal. off tank wagon price of gasoline for 1,000 gallon dumps per month to consumers taking tank wagon delivery only discount applying only at normal points.

Latest Changes in Tank Wagon Prices

Gasoline

S. O. New Jersey—T. w. and s. s. up 2c, Charlotte, to 19c and 20c respectively, **April 18.**

S. s. only up 1.7c, Roanoke, to 18.7c, **April 23.**

S. s. only up 2.2c, Salisbury, to 20.2c, **April 18.**

S. O. New York—Correction: t.w. price of gasoline at Providence has been 13.7c, including 2c tax, since **March 30,** indicating an advance of 1.4c on that date.

S. O. Kentucky—T. w. only up 2c, Jackson, to 15c, **April 16.**

S. s. only cut 2c, Macon, to 18c, **April 21.**

S. O. Nebraska—S. s. only cut 1c, generally thru Nebraska where prices were normal, **April 20.** Exceptions: Norfolk cut ½c; Scottsbluff unchanged; t. w. cut ¾c, McCook, to 16c, including 4c tax.

S. O. Indiana—S. s. only of Stanolind Blue gasoline cut ¾c, Chicago and vicinity, to 13.25c, including 3c tax, noon **April 25.**

S. O. California—Tank truck and retail prices cut 1c, San Francisco and Fresno, to 8c tank truck and 11c retail at both points, including 3c tax, **April 24.**

Continental Oil—T. w. and s. s. up 1c, Pueblo, to 14c and 17c respectively, including 4c tax, **April 22.**

Kerosine

S. O. New Jersey—Kerosine cut 7/10c, Washington, to 10c, t. w., **April 23.**

Atlantic Refining—Kerosine cut to 10c, t. w., Erie, **April 24.**

S. O. New York—Correction: T.w. price of kerosine at New Haven has been 10c since Oct. 10, 1930, on which date it was cut 2.6c.

Aviation Gasoline

Continental Oil—T. w. cut 2c, Cheyenne, to 19c, including 4c road tax, **March 7.** T. w. cut 1c, Salt Lake City, to 21c, including 3.5c tax, **April 1.** These prices at both points were published in the tank wagon table of the April 15 issue, but no note was published indicating dates of changes.

Above prices include these inspection fees on both gasoline and kerosine, per gallon: Alabama, 1/40c on gasoline, 1/2c kerosine; Arkansas, 1/20c on both; Florida, 1/8c on both; Illinois, 3/100c on both; Indiana, 2/25c to 1/2c on both; Kansas, 3/50c on both; Louisiana, 1/32c on gasoline; Minnesota, 3/50c on both; Missouri, 1/50c to 1/2c on both; Nebraska 3/100c on both; North Carolina, 1/4c on both; North Dakota, 1/20c on both; Oklahoma, 4/25c on both; South Carolina 1/8c on both; South Dakota, 1/10c on both; Tennessee, 2/5c on gasoline and 1/2c to 4/5c on kerosine; Wisconsin, 1/25c on both.

Kerosine inspection fees only, per gallon; Iowa 7/100c; Michigan, 1/5c to 4/5c per gal.

Tank Wagon, Service Station Markets for Gasoline and Kerosine

These Prices in Effect April 27, 1931, as Posted by Principal Marketing Companies

S. O. LOUISIANA

	Gasoline				Oil
	Posted Retail T.W.	Tax	Total Posted Retail T.W.	Posted Retail S.S.	T.W.
Little Rock, Ark.	10.5	6	16.5	17.5	11
Alexandria, La.	10.5	*6	16.5	17.5	†12
Baton Rouge, La.	10.5	5	15.5	16.5	†12
New Orleans, La.	9.5	*6	15.5	16.5	†12
Lake Charles, La.	10.5	*6	16.5	17.5	†12
Shreveport, La.	10.5	5	15.5	16.5	†12
Lafayette, La.	10.5	*6	16.5	17.5	†12
Bristol, Tenn.	13.5	5	18.5	19.5	14
Chattanooga, Tenn.	12.5	5	17.5	18.5	13
Knoxville, Tenn.	13	5	18	19	13.5
Nashville, Tenn.	12	5	17	18	12.5
Memphis, Tenn.	10	5	15	16	10

Note: Discounts in S. O. La. territory: To dealers and commercial consumers from the tankwagon, 2c per gal. off posted retail t.w. price.

*Lake Charles, Alexandria, New Orleans and Lafayette gasoline tax includes 5c state tax and 1c parish tax. New Orleans kerosine price includes 1c parish tax in addition to 1c state tax.

†Kerosine price in Louisiana includes 1c state tax.

MAGNOLIA PETROLEUM

	Gasoline			Oil
	T.W.	Tax	Total T.W. S.S.	T.W.
Muskogee, Okla.	8	5	13 16	8
Oklahoma City.	6	5	11 13	8
Tulsa, Okla.	8	5	13 16	8
Fort Smith, Ark.	10.5	5	15.5 16.5	11
Little Rock, Ark.	10.5	6	16.5 17.5	11
Texarkana, Ark.*	12	4	16 16	11
Dallas, Tex.	11	4	15 18	10
Fort Worth, Tex.	9	4	13 15	10
Houston, Tex.	10	4	14 18	11
San Antonio, Tex.	10	4	14 18	10
El Paso, Tex.	10	4	14 18	12

*Within city of Texarkana, the state tax on gasoline is 4c per gal. conforming with the Texas state tax. In this district outside of the city the 5c Arkansas tax applies.

CONTINENTAL OIL

Denver, Colo.	11	4	15	18	12.5
Pueblo, Colo.	10	4	14	17	12
Grand Junc., Colo.	12	4	16	19	16
Casper, Wyo.	11	4	15	18	10
Cheyenne, Wyo.	12	4	16	19	11.5
Butte, Mont.	12	5	17	20	16
Helena, Mont.	15	5	20	23	16
Salt Lake City, Utah	†14.5	3.5	18	17	16
Boise, Ida.	*16.5	5	21.5	..	18
Twin Falls, Ida.	**16.5	5	21.5	..	18
Albuquerque, N. M.	11	5	16	20	14

*Less 3c on gasoline at time of delivery.

†Less 4c on gasoline at time of delivery at Salt Lake.

**Less 4.5c on gasoline at time of delivery at Twin Falls.

S. O. CALIFORNIA

	State Tax	Gasoline Tank Truck	*Retail	Oil T.W.
San Francisco, Cal.	3	8	11	15.5
Los Angeles, Cal.	3	7.5	10.5	15.5
Fresno, Cal.	3	8	11	17
Phoenix, Ariz.	5	17.5	20	20
Reno, Nev.	4	16	....	19
Portland, Ore.	4	11.5	14.5	16.5
Seattle, Wash.	5	11	14	16.5
Spokane, Wash.	5	17	20	20.5
Tacoma, Wash.	5	11	14	16.5

Note: No discounts off above gasoline prices; tank truck prices are those to resale trade; wholesale prices are generally 6c above tank truck prices, except at Phoenix 1c; Reno and Spokane 4c.

*Retail prices are those of Standard Stations, Inc., marketing subsidiary of the Standard Oil Co. of California.

CANADA

(Per Imperial Gallon, which is 1.2 American Gallons)

ONTARIO

	Gasoline				Oil
	T.W.	Tax	Total T.W	S.S	T.W.
Toronto	16	5	21	24.5	17
Ottawa	17	5	22	25.5	18
North Bay	20	5	25	30.5	21
Fort William	19.5	5	24.5	28	19.5
Border Cities, including Windsor	16	5	21	24.5	15

MANITOBA

	Gasoline				Oil
	T.W.	Tax	Total T.W.	S.S.	T.W.
Winnipeg	18	5	23	27	18.5

SASKATCHEWAN

Regina	22	5	27	31	22

ALBERTA

Edmonton	23	5	28	31.5	23
Calgary	19.5	5	24.5	28	19.5

BRITISH COLUMBIA

Vancouver	21	5	26	28	22

QUEBEC

Montreal	17	5	22	25.5	18
Quebec City	19	5	24	27.5	20
Three Rivers	19	5	24	27.5	20

NEW BRUNSWICK

St. John	18.5	5	23.5	27.5	20.5
Moncton	18.5	5	23.5	27.5	20.5

NOVA SCOTIA

Halifax	18.5	5	23.5	27.5	20.5

PRINCE EDWARD ISLAND

Charlottetown	18.5	5	23.5	27.5	20.5

Note: In districts surrounding these points 1c additional is added to city price.

NAPHTHA PRICES

	Oleum Spirits	V.M.&P. Naphtha	Cleaner Naphtha
Chicago	10.7	12.7	14.2
Detroit	13.4	14.9	15.7
Kansas City	†11.9	†13.4	†14.2
Milwaukee	12.4	*15.9	*16.7
Minneapolis	**16.7	**18.2	**19
St. Louis	11.6	13.1	13.9
New York		14	20
Boston		17	20

*Includes 2c state tax. †Includes 1c city tax.
**Includes 3c state tax.

Petroleum Spirits (Solvent)

Tank Cars (F.o.b. refinery or seaboard terminal)	
New York harbor	10.00
Philadelphia district	10.00
Providence	10.50
Tank Wagon or Steel Barrels	
New York City	14
Syracuse	17
Rochester	18
Buffalo	16
Providence	17
Boston	17
Bridgeport	15
Newark	16
Philadelphia	14
Lancaster	17
Altoona	17
Baltimore	17

Note: 2c off above t.w. prices to large buyers in some instances.

Aviation Gasoline Prices

Following are tank wagon prices of aviation gasoline in principal marketing territories showing state and municipal taxes:

S. O. NEW JERSEY

Prices in Effect April 27, 1931

	T.W.	Tax	Total T.W.
Newark, N. J.	16.9	*	16.9
Baltimore, Md.	16.2	4	20.2
Washington, D. C.	17	2	19

*New Jersey road tax of 3c does not apply on aviation gasoline, exemption being claimed at time of purchase.

All above prices are on Stanavo Aviation Gasoline.

COLONIAL BEACON OIL CO.

New York City	17.5	2	19.5
Boston	19	2	23

S. O. PENNSYLVANIA

Philadelphia, Pa.	16	3	19
Pittsburgh, Pa.	16	3	19
Altoona, Pa.	16	3	19

S. O. OHIO

Thru Ohio	15	4	19

Discounts given by S. O. Ohio: For airport delivery only; 2,000 gals. or over per month, 1c per gal.; 6,000 gals. or over per month, 2c; 12,000 gals. and over per month, 3c; 24,000 gals. and over per month, 4c.

S. O. INDIANA

	T.W.	Tax	Total T.W.
Chicago	14	3	17
Indianapolis, Ind.	14.3	4	18.3
Detroit, Mich.	14.8	3	17.8
Milwaukee, Wis.	14.1	2	16.1
Minneapolis, Minn.	15.2	3	18.2
St. Louis, Mo.	13.4	2.5	15.9
Kansas City, Mo.	13.9	3	16.9
Fargo, N. D.	16.9	3	19.9
Huron, S. D.	15.3	4	19.3
Wichita, Kan.	12.8	3	15.8

In. S. O. Indiana territory, buyer pays state and city taxes on aviation gasoline, and if he can get a refund from the state, he does so. Kansas City tax of 3c includes 1c city tax; St. Louis tax of 2.5c includes ½c city tax.

S. O. LOUISIANA

New Orleans, La.	18	6	24
Nashville, Tenn.	20	5	25
Memphis, Tenn.	19	5	24

2c per gal. discount off above posted retail t.w. prices to dealers and commercial consumers.

S. O. NEBRASKA

Omaha	16.25	4	20.25

2c per gal. refund to reseller.

CONTINENTAL OIL CO.

Denver, Colo.	14	4	18
Cheyenne, Wyo.	15	4	19
Helena, Mont.	18	5	23
Salt Lake City, Utah	†17.5	3.5	21
Albuquerque, N. M.	15	5	20
Boise, Ida.	*19.5	5	24.5

†Less 4c on aviation gasoline at time of delivery.
*Less 3c on aviation gasoline at time of delivery.

S. O. CALIFORNIA

Phoenix, Ariz.	17.5	4	21.5
Los Angeles, Cal.	16.5	3	19.5
San Francisco, Cal.	17	3	20
Reno, Nev.	21	4	25
Portland, Ore.	17.5	4	21.5
Seattle, Wash.	17.5	3	20.5
Spokane, Wash.	21.5	3	24.5

Note: 4c per gallon added to t.w. price, in S. O. California territory, to customers taking delivery direct into the fuel tank of planes.

S. O. Nebraska Appeals Lease-Agency Case

LINCOLN, Neb., April 27.—Standard Oil Co. of Nebraska has appealed a decision of a district court in Nebraska in which it was refused an injunction to compel a lease and agency outlet at North Bend to continue to handle its products.

According to the testimony the station was built by a real estate man and leased to the Standard. The lessor became dissatisfied with his contract and took on the sale of competing products.

The district court held that both the lessor and the Standard violated the anti-trust laws in that the contract they signed required the operator of the station to sell the merchandise at prices established by the Standard.

One Peruvian engineer must be employed in every oil company camp with more than 33 laborers, according to a decree put into effect last September by the Government of Peru.

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Crude Oil Prices (in Effect April 27, 1931)

Crude prices for the whole year in OIL PRICE HANDBOOK published annually

EASTERN FIELDS

(Posted by Joseph Seep Purchasing Agency)

Bradford—Alleghany district (posted by Tide Water Pipe Co., Ltd.) (Effective Apr. 23, 1931) $2.00
Penna. Grade Oil in National Transit Lines (Effective Apr. 23, 1931) *1.75
Penna. Grade Oil in Southwest Penna. Pipe Lines (Effective Apr. 27, 1931) 1.60
Penna. Grade Oil in Eureka Pipe Lines (West Virginia) (Effective Apr. 23, 1931) 1.50
Penna. Grade Oil in Buckeye Pipe Lines (Macksburg, O.) (Effective Apr. 23, 1931) 1.25
Corning Grade in Buckeye Pipe Lines (Ohio) (Effective March 11, 1931) 0.80
Somerset oil in main system of Cumberland Pipe Line (posted by Ashland Refining Co.) (Effective March 6, 1931) $0.75
Ragland Grade in Cumberland Pipe Lines (Kentucky) (Effective Jan. 9, 1929) $0.60
*Oil run prior to July 1, 1929 is 5c less per bbl.

(Posted by Stoll Oil Refining Co.)

Oil City, Ky., oil in Stoll lines (Effective April 1, 1931) $0.60

MICHIGAN

(Posted by Dixie Oil Co.)

Traverse and Dundee (Muskegon), effective March 5, 1931, same gravity and price schedule as Stanolind posts in Oklahoma, Kansas and North Texas, which see below.

(Posted by Pure Oil Co.)

Midland, Midland County (March 13, 1931) $0.75

CENTRAL STATES FIELDS

Posted by Ohio Oil Co.

Effective March 6, 1931

Wooster	$0.99	Princeton	$0.80
Lima	0.90	Illinois	0.80
Waterloo	1.20	West Kentucky	0.75
Indiana	0.50		

CANADIAN CRUDE

Posted by Imperial Oil Refineries, Ltd.

Effective Oct. 28, 1930

Petrolia $1.50
Oil Springs 1.57

OKLAHOMA, KANSAS and †NORTH TEXAS

Prices of *Stanolind Crude Oil Purchasing Co.

(In Oklahoma, Kansas, †North and North Central Texas)

Effective March 5, 1931

Below 29	$0.43	35-35.9	$0.57
29-29.9	0.45	36-36.9	0.59
30-30.9	0.47	37-37.9	0.61
31-31.9	0.49	38-38.9	0.63
32-32.9	0.51	39-39.9	0.65
33-33.9	0.53	40 and above	0.67
34-34.9	0.55		

*Prairie Oil & Gas withdrew postings in Oklahoma, Kansas and Texas, Jan. 1, 1931.

On March 5, 1931 these crude purchasers met above prices: Continental Oil Co., Eason Oil Co., Mid-Continent Petroleum Corp., Standard Oil Co. of Kansas, Tidal Refining Co., White Eagle Oil & Refining Co.

On March 10, 1931, these met Stanolind: Humble and The Texas Co.

†Except these North Texas districts, prices for which see below: Wichita Falls, Wilbarger, Foard, Montague, and Cooke counties.

North Texas: †Wichita, Wilbarger, Foard, Montague, Cooke Counties

Effective April 21, 1931

Below 29	$0.33	35-35.9	$0.47
29-29.9	0.35	36-36.9	0.49
30-30.9	0.37	37-37.9	0.51
31-31.9	0.39	38-38.9	0.53
32-32.9	0.41	39-39.9	0.55
33-33.9	0.43	40 and above	0.57
34-34.9	0.45		

Above prices posted by Stanolind also in West Central Texas, including Young, Palo Pinto, Stephens and Eastland counties.

Humble Oil & Refining Co.

(In East, North and North Central Texas)

Effective March 10, 1931

Effective March 10, Humble pays same prices as Stanolind Crude Oil Purchasing Co. pays in Oklahoma, Kansas, etc., in these East Texas, North and North Central Texas fields: Sabine, Mexia, Powell, Boggy Creek, Richland, Wortham and Currie.

Effective April 21, Humble posted in Ranger, North Texas, Moran and Cooke Counties, same prices as Stanolind in North Texas, Wichita, Wilbarger, etc., which see above.

Magnolia Petroleum Co.

(In Oklahoma, Kansas, †North, *East and East Central Texas)

*Effective March 5, 1931

Magnolia posts same prices in all three states as Stanolind, in Oklahoma and Kansas, except these lower grades:

Below 26	$0.40	27-27.9	$0.42
26-26.9	0.41	28-28.9	0.43

*Effective March 26, 1931, in East Texas.

†Except these North Texas fields, where prices are same as Humble and Stanolind in the same districts: Ranger, Clay, Montague, Wichita, Wilbarger, Young, Comanche, Eastland, Erath and Stephens, Tex., effective April 23, 1931.

Carter Oil Co.

(Oklahoma and Kansas)

March 10, 1931, same prices as Stanolind in Oklahoma and Kansas, which see.

PANHANDLE TEXAS

Humble Oil & Refining Co.

Effective April 21, 1931

Hutchinson and Carson Counties:

Below 35	$0.30	38-38.9	$0.38
35-35.9	0.32	39-39.9	0.40
36-36.9	0.34	40 and above	0.42
37-37.9	0.36		

Gray County

Below 35	$0.33	38-38.9	$0.41
35-35.9	0.35	39-39.9	0.43
36-36.9	0.37	40 and above	0.45
37-37.9	0.39		

Above prices met by Magnolia and The Texas Co. on April 23 in Hutchinson, Carson and Gray counties.

Wheeler County: Posted by Magnolia Pet. Co. Effective Apr. 10, 1930. Humble withdrew Wheeler county postings Apr. 10, 1930.

Below 30	$0.755	37-37.9	$1.11
30-30.9	0.805	38-38.9	1.145
31-31.9	0.855	39-39.9	1.18
32-32.9	0.905	40-40.9	1.215
33-33.9	0.955	41-41.9	1.25
34-34.9	1.005	42-42.9	1.285
35-35.9	1.04	43-43.9	1.32
36-36.9	1.075	44 and above	1.355

WEST TEXAS and NEW MEXICO

Humble Oil & Refining Co.

Effective April 21, 1931

Pecos and Winkler, all grades $0.35
Crane, Upton, Crockett, Ector, Howard and Glasscock Counties, all grades $0.30
Lea County, N. Mex. $0.325

April 23, 1931, The Texas Co. same prices in Crane, Upton, Winkler and Lea counties as Humble.

April 23, Magnolia same prices as Humble in Winkler, Crane, Upton, Howard, Glasscock and Mitchell counties.

SOUTH and SOUTHWEST TEXAS

(Posted by Humble Oil & Refining Co.)

All Effective April 21, 1931

Mirando $0.60
Salt Flat 0.53
Darst Creek 0.53
Pettus, Bee County 0.75

(Posted by Magnolia Petroleum Co.)

Effective April 23, 1931

Corsicana Heavy $0.38
Luling 0.38

(Posted by The Texas Co.)

Markham $0.50

NORTH LOUISIANA—ARKANSAS FIELDS

Prices of Standard Oil Co. of Louisiana

Caddo, Homer, Haynesville, Bull Bayou, El Dorado, Crichton, De Soto, Sabine, Cotton Valley, Sarepta and Carterville.

Effective March 10, 1931

Below 29	$0.43	35-35.9	$0.57
29-29.9	0.45	36-36.9	0.59
30-30.9	0.47	37-37.9	0.61
31-31.9	0.49	38-38.9	0.63
32-32.9	0.51	39-39.9	0.65
33-33.9	0.53	40 and above	0.67
34-34.9	0.55		

Smackover, all grades $0.45
Bellevue 0.45
*Urania, La. (April 21, 1931) 0.50
†East El Dorado (Calion) 0.45

*Posted by Louisiana Oil Refining Corp.

†Posted by Magnolia Petroleum Co.

March 10, 1931, The Texas Co. same schedule in Louisiana as Standard.

March 10, Magnolia met Standard schedule in Louisiana-Arkansas fields except it posts the same low grades in La.-Ark. as in Mid-Continent.

Stephens, Arkansas

Louisiana Oil Refining Corp., and Atlantic Oil Producing Co.

Effective March 10, 1931

Below 29	$0.38	29 and above	$0.41

GULF COASTAL

Posted by Humble Oil & Refining Co.

Effective April 21, 1931

Grades A	$0.70	29-29.9	$0.69
Grades B:		30-30.9	0.71
Below 25	0.60	31-31.9	0.73
25-25.9	0.61	32-32.9	0.75
26-26.9	0.63	33-33.9	0.77
27-27.9	0.65	34-34.9	0.79
28-28.9	0.67	35 and above	0.81

On April 23, 1931, The Texas Co. posted same prices on Grades A and B Gulf Coast crude as Humble, except its schedule on Grades B goes to top grade of 40 and above, at 91 cents; a 2 cent differential applies for each gravity from Humble's 35 and above.

Fields classified as A and B are Spindletop, Goose Creek, Hull, Liberty, Sour Lake, West Columbia, Orange, Boling, Humble, Pierce Junction, Sugarland, Refugio county, and Raccoon Bend. All other fields are Grades A only.

Specifications for Grade "A" crude: Gravity: 25° and below, at 60° F: Viscosity: not less than 100 seconds at 100° F. Saybolt.
Sulfur: not over 4%.

Grade "B" includes all Coastal crude which does not meet the test for "A" grades.

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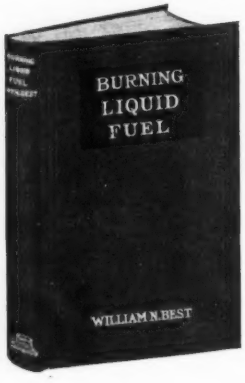

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Crude Oil Prices (in Effect April 27, 1931)

(Prices are per barrel at the well)

(Crude Oil Prices for the whole year in OIL PRICE HANDBOOK published annually)

ROCKY MOUNTAIN FIELDS
(Posted by Midwest Refining Co.)
(Salt Creek prices effective March 5, 1931)

Salt Creek, below 29°	$0.43
" " 29-29.9	0.45
" " 30-30.9	0.47
" " 31-31.9	0.49
" " 32-32.9	0.51
" " 33-33.9	0.53
" " 34-34.9	0.55
Salt Creek 35-35.9	0.57
" " 36-36.9	0.59
" " 37 and above	0.61

(Posted by Ohio Oil Co. and Midwest Refining Co.)

Elk Basin	$0.90
Grass Creek light	0.90
Big Muddy	0.65
Lance Creek	0.98
Rock Creek	0.66
Mule Creek	1.20
Rex Lake	1.10
Pondera	1.45
†Osage	0.50
†Cat Creek, Mont.	0.90
Sunburst, Mont.	1.55
†Hogback, N. Mex. (April 1, 1931)	0.90

†Posted by Midwest Refining Co. Midwest also buys Grass Creek light and Elk Basin. Others are prices of Ohio Oil Co.

CALIFORNIA CRUDE
†Standard Oil Co. of California
Effective March 31, 1931

Gravity	Signal Hill, Seal Beach, Alamitos Heights, Huntington Beach, Inglewood, Olinda-Brea Canon, Athens-Rosecrans-Dominguez, Torrance, Richfield, Whittier, LaHabra, Montebello, Coyote Hills and Santa Fe Springs	Elwood Terrace	Newhall, McKittrick, Kern River, Midway-Sunset, Elk Hills, Buena Vista Hills, Lost Hills, Coalinga and Wheeler Ridge	*Santa Paula	*Orcutt
14-19.9	$0.65		$0.55	$0.60	$0.55
20-20.9	.65		.53	.58	.53
21-21.9	.62		.51	.56	.51
22-22.9	.59		.49	.53	.49
23-23.9	.56		.47	.50	.47
24-24.9	.53		.45	.47	.45
25-25.9	.50		.43	.44	.43
26-26.9	.47		.41	.41	.41
27-27.9	.44		.39	.38	.39
28-28.9	.41		.37	.35	.37
29-29.9	.38		.35	...	.35
30-30.9	.35		...	...	...
31-31.9	.35		...	...	...
32-32.9	.35		...	...	...
33-33.9	.35		...	...	...
34 and above	.35	$0.35	...	...	...

F.O.B. Ship

*Posted by Union Oil Co. of California, effective March 30, 1931.

†Postings on Kettleman Hills crude discontinued by Standard, March 10, 1931; on Playa del Rey, March 31, 1931.

REFINERS' and COMPOUNDERS' SUPPLIES

Following are average market prices for materials used by refiners and compounders effective on the date shown.

Refiners' Supplies

	April 27	April 20
Soda Ash Light 58% bags, cwt.	$1.20-1.38	$1.20-1.38
Silicate of Soda 60 deg. drums, cwt.	$1.75-1.90	$1.75-1.90
Silicate of Soda 40 deg. tank cars, cwt.	$0.70	$0.70
Silicate of Soda 40 deg. drums, cwt.	$1.00	$1.00
Sal Soda wks.	$0.90-1.20	$0.90-1.20
Caustic Soda 76% solid, cwt.	$2.25-2.50	$2.25-2.50
Sulfuric Acid 60 deg. tank cars, f. o. b. shipping point per ton	$11.00-12.50	$11.00-12.50
Sulfur, flowers of, cwt.	$3.10-4.00	$3.10-4.00
Liquid Chlorine, tank cars, wks., lb.	1.75	1.75

Compounders' Supplies

	April 27	April 20
Vegetable Oils		
Linseed carloads, spot, lb.	9.00	9.20
Tanks, spot	8.40	8.60
Soya Bean, Tank, coast, lb.	7.10	7.10
Oleic Acid		
Distilled, tanks, lb.	7.50	7.50
Distilled, bbls., lb.	8.75	8.75
Saponified, tanks, lb.	7.75	7.75
Saponified, bbls., lb.	8.625	8.625
Lard Oils		
Prime Winter Strained, lb.	13.00	13.00
Extra Winter Strained, lb.	9.75	9.75
Extra, lb.	9.50	9.50
Extra No. 1, lb.	9.00	9.00
No. 1, lb.	8.75	8.75
No. 2, lb.	8.50	8.50
Tallow oil, lb.	8.25	8.25
Neatsfoot Oil		
Pure, bbls., lb.	11.25	11.25
Extra, bbls., lb.	9.25	9.25
No. 1 bbls., lb.	9.00	9.00
Cold Pressed, lb.	16.00	16.00
Fish Oils		
Menhaden Oil		
Light Pressed, gal.	38–40	38–40
Light Pressed, tank cars, N. Y., gal.	30–32	30–32
Yellow bleached, gal.	42–44	42–44
Whale, extra winter bleached, gal.	75	80
Naval Stores		
Steam, distilled turpentine, N. Y., gal.	51	51
Steam, distilled turpentine, Savannah, gal.	49	49
Gum turpentine, N. Y., gal.	54-56	54-56
Gum turpentine, f. o. b. cars Savannah, gal.	48-50	48-50
Wood Rosin, N. Y., bbl.	$5.20	$5.20
Wood Rosin F, Savn'h, bbl.	$5.10	$5.10
Gum Rosin B, N. Y., bbl.	$4.70	$4.70
Gum Rosin B, f. o. b. cars Savannah, bbl.	$3.95	$3.95
Rosin oil, pure, gal.	54	54
Rosin, oil, compounded, gal.	48	48
Pine Tar		
Kiln burnt, bbl.	$10.00-11.00	$10.00-11.00
Retort, bbl.	$11.50-12.50	$11.50-12.50
Alcohol		
Denatured Formula 5, in tanks, per gal.	24	24

WASHINGTON—The duty on gasoline in containers in Australia again has been postponed, and is to be in effect June 1, 1931, according to the U. S. Department of Commerce. The duty is 1½ pence, about 3 cents, a gallon. Oil companies in Australia have announced an increase of 6 pence a gallon on motor lubricating oils sold to retailers and retailers have raised the price 1 penny a pint.

TULSA—Burt H. Collins has acquired from the Carter Oil Co. a half interest in the company's properties in the Chelsea district of Nowata county, Okla., and will have charge of operating. The properties consist of 1600 acres with about 500 wells, all old, shallow production. Much of it has been repressured for some time.

DALLAS—Elliott Davenport, superintendent for the Shell Petroleum Corp. in the Hobbs field, has been transferred to East Texas in the same capacity.

OIL STOCKS AND FINANCES

Gas Property Sale Boosts 1930 Profits of S. O. New York

CLEVELAND, April 25

STANDARD OIL CO. of New York and subsidiaries in 1930 netted $16,496,727 on its operations and $23,749,471 on the sale of natural gas properties making its total net profit for the year $40,246,198. This last sum averaged $2.25 on each of the 17,849,402 shares of $25 par common stock outstanding at the end of 1930.

In 1929 the company netted $38,750,849 on its operations or $2.23 a share on the 17,379,572 shares outstanding at the end of 1929.

The net earnings on operations in 1930, exclusive of the profit from the gas property sale, averaged 92 cents a share.

The Standard's balance sheet of Dec. 31 showed assets of $720,305,566 after depreciation, depletion and amortization reserves of $375,040,723. At the end of 1929 assets amounted to $708,406,362.

Current assets amounted to $238,478,763, including $22,908,940 cash and $22,504,998 marketable securities. Current liabilities amounted to $38,178,953, leaving net working capital of more than $200,000,000. Oil inventories were carried at $136,707,056 Dec. 31, compared with $157,497,934 a year before.

Funded debt was reduced approximately $600,000. Assumption of $3,978,000 of White Eagle Oil Corp. debentures almost balanced reduction in funded debt of other subsidiary companies.

Surplus Dec. 31 amounted to $132,345,997, compared with $120,029,347 at the end of 1929. Of the 1930 surplus $97,098,035 was earned surplus, $26,529,895 capital surplus, and $8,718,067 insurance reserve.

Consolidated Income Accounts of Standard Oil Co. of New York and Subsidiaries

	1930	1929
Gross earnings after costs and expenses	$72,474,145.16	$98,216,082.53
*Federal and other taxes	11,090,952.93	11,391,383.73
Depletion, depreciation and amortization	38,833,586.53	41,836,521.92
Insurance	1,481,735.22	1,708,510.80
Net operating income	$21,067,870.48	$43,279,666.08
Interest on funded debt	4,571,143.81	4,528,816.82
Net earnings	$16,496,726.67	$38,750,849.26
Profit from gas properties sale after federal income taxes	23,749,471.51	
Net profit for year	$40,246,198.18	$38,750,849.26

*Exclusive of gasoline taxes which amounted to $32,234,520.22 in 1930 and $24,457,494.58 in 1929.

Phillips-Independent Merger Defended

WILMINGTON, Del., April 25.—Sale of assets of Independent Oil & Gas Co. to Phillips Petroleum Co. was defended as advantageous to Independent stockholders in an answer to a suit for appointment of a receiver in dissolution.

Payment of 32,373 share of Phillips stock to Bancamerica-Blair Corp. and Henry Lockhart, Jr., a director of the oil company and the banking company, for work in effecting the consolidation, also was defended.

It was pointed out that Independent has no assets and appointment of a receiver would serve no useful purpose.

Pierce Reports Loss

ST. LOUIS, April 25.—Pierce Petroleum Corp. reports a net loss of $461,123 for 1930 compared with earnings of $1,067,402 before federal income taxes in 1929. The 1930 report covers only the first half of the year as Sinclair Consolidated Oil Corp. took over Pierce assets July 1.

Crude Price Changes

The following revisions in crude oil price schedules have been made since the reductions of from 5 to 2 cents a barrel April 21 by the Humble Oil & Refining Co., noted in April 22 issue, page 79:

April 21, Stanolind Crude Oil Purchasing Co. in North Texas fields, including Wichita, Wilbarger, Foard, Montague and Cooke counties; and in West Central Texas, including Young, Palo Pinto, Stephens and Eastland counties.

April 23, Magnolia Petroleum Co. in Ranger and North Texas district, which includes counties of Clay, Montague, Wichita, Wilbarger, Young, Comanche, Eastland, Erath and Stephens; also met Humble in West Texas, including Winkler, Crane, Upton, Howard, Glasscock and Mitchell counties; in Panhandle district, including Gray, Carson and Hutchinson counties; in South Texas, including Mirano and Darst Creek. It also reduced Luling and Corsicana Heavy 7 cents, to new price of 38 cents for each field.

April 23, The Texas Co. in North Texas and North Central Texas; in Panhandle, including Gray, Carson and Hutchinson counties; in West Texas, including Winkler, Crane and Upton counties; in New Mexico, Lea county; in Darst Creek, South Texas; and in Gulf Coastal Texas fields, except that its own gravity schedule on B grade continues to 40 degrees and above, for which grade 91 cents is posted. Humble's schedule on Gulf Coast B crude ends with 35 and above at 81 cents. A 2-cent differential applies on all grades in The Texas Co.'s schedule, beginning with 26-26.9 gravity.

April 21, Continental Oil Co. in North Texas, in Panhandle, including Carson and Hutchinson counties; in New Mexico, including Artesia, Jackson and Maljamar pools, which are posted at 32.5 cents per barrel.

April 24, Gulf Refining Co. met Humble's reductions in fields where it purchases and also posted East Texas crude at the same prices Humble posted.

SHREVEPORT.—April 21, Louisiana Oil Refining Co. cut Urania, La., crude 25 cents, to new price of 50 cents per barrel. It also posted 53 cents for Darst Creek, south Texas crude for royalty oil purchased by it.

PITTSBURGH.—April 23, Joseph Seep Purchasing Agency reduced all grades of Pennsylvania 10 to 20 cents per barrel. New prices are: in National Transit lines, $1.75; in South West Pennsylvania lines, $1.70; in Eureka lines (West Virginia crude), $1.50; and Macksburg, O., district crude in Buckeye lines, $1.25. Crude in the two former lines was cut 10 cents, and in the two latter, 20 cents. Last previous change on Pennsylvania crude was a 15-cent cut Nov. 12, 1930.

BRADFORD.—April 23, Tide Water Pipe Co., Ltd., reduced Bradford-Allegany district crude in Pennsylvania 15 cents, making new price $2 per barrel.

PITTSBURGH.—On April 27 Joseph Seep Purchasing Agency reduced Pennsylvania grade crude in Southwest Pennsylvania lines 10 cents, making new price $1.60 per barrel. This is in addition to a 10 cent cut on April 23.

Financial Notes

Phillips Petroleum Co.—All officers have been re-elected.

SKILLED SUPERVISION

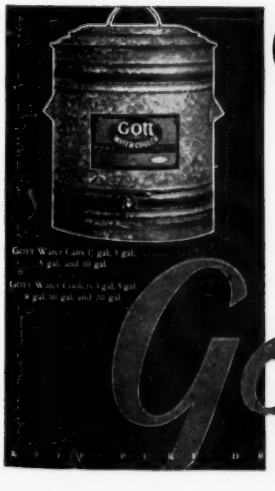
Guarantees the Quality of Gulf Products

COASTAL AND PARAFFINE CRUDES
GASOLINE—LUBRICATING OILS
NAPHTHA—GAS—OILS
WAX—PETROLEUM COKE
CYLINDER—ENGINE—CORDAGE

Gulf Refining Company

General Sales Offices:
PITTSBURGH, PA.

District Sales Offices: New York, Boston, Philadelphia, Louisville, Atlanta, Houston, New Orleans



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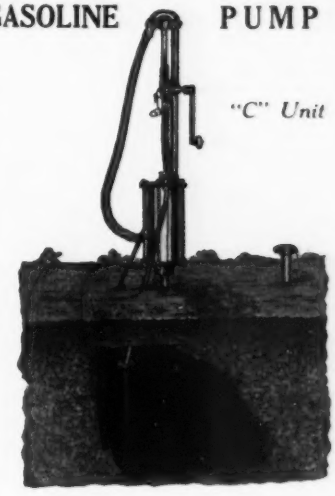

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Tanks supplied with MARS "C" Unit are the best obtainable. 14-ga. galv., Underwriter's Specification (labelled). 155; 280 and 550-gal. Supplied from your nearest shipping point: Aurora; Chicago; St. Louis; Pittsburgh; Birmingham; Dallas and St. Paul.

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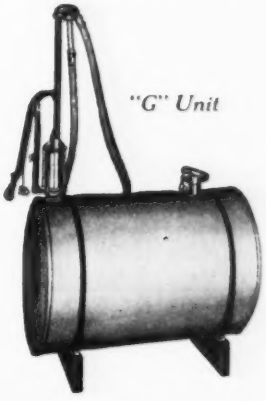

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MARS COMPANY
Aurora, Ill.
(Est. in 1914)

Transactions in Oil Shares on New York Stock Exchange

1929 High	1929 Low	1930 High	1930 Low	Listed Shares	Par Value	Company	Div. Rate	Last Paid	Transactions Week Ended April 25 Sales	First	High	Low	Last	Change§
42⅝	17½	42¼	16½	922,075	N.P.	Amerada Corp.	50cQ	Jan. 30, 31	2,800	18	18	17⅛	17½	— 1
64¾	12½	37	5¼	209,180	N.P.	American Republics Corp.	....	.....	1,200	7	7	6	6	— 2
47¼	34½	51	30	2,240,000	$25	Associated Oil	50cQ	Mar. 31, 31	20	30	30	29½	29½	— ½
77⅞	30	51⅜	16¾	2,683,868	25	Atlantic Refining Co.	25cQ	Mar. 16, 31	36,200	16¼	16½	14¾	14⅞	— 1⅝
49½	20	34	8⅝	2,257,108	25	Barnsdall Corp. A	25cQ	Feb. 16, 31	17,000	10	10	8½	9	— 1
34½	25	35	21	2,060,966	25	California Petroleum Corp.	....	Jan. 1, 29	10	25	25	25	25	— 4
32⅞	12½	20⅝	8¾	1,444,970	N.P.	Colonial Beacon Oil Co.	....	.....	1,600	8¾	8¾	8½	8½	— ¼
37¾	18	30½	7¾	4,610,258	N.P.	Continental Oil (Delaware)	....	.....	38,100	8	8¼	7¼	7¼	0
94¾	42¼	71⅛	22⅜	410,857	$100	General Asphalt Co.	75cQ	Mar. 16, 31	23,600	25⅜	25⅜	21⅛	22	— 3¼
109	26	116⅞	29¼	250,000	100	Houston Oil	....	.....	24,100	48¼	49	42	42⅛	— 5⅜
..	..	10¼	6⅜	.....	..	Houston Oil, new	....	.....	19,300	10⅝	11⅛	9	9	— 1⅜
53	13½	28⅜	3	699,066	10	Indian Refining	....	Dec. 15, 20	2,500	3¼	3¼	2¼	2⅜	— ¾
51¼	11½	27¾	3½	568,816	10	do certificates	....	.....	.....	....	....	....	....	.....
38⅜	16½	29½	21¼	3,994,150	N.P.	Lago Oil & Transport	....	Aug. 2, 27	.....	....	....	....	....	.....
18	7	12	3½	1,187,701	N.P.	Louisiana Oil Refining	....	.....	2,600	3⅞	3⅞	3⅝	3⅝	— ⅜
100¼	80	89½	60	40,000	$100	do pfd	$1.62½Q	Feb. 14, 31	10	40	40	40	40	0
18½	5⅞	10⅜	1¾	330,000	N.P.	Maracaibo Oil Exploration	....	.....	1,500	2	2	1⅝	1⅝	— ½
295	176	182	150	459,428	$100	Mexican Petroleum	$3Q	Jan. 20, 31	.....	....	....	....	....	.....
105	102	100	100	120,000	100	do pfd	$2Q	Jan. 20, 31	.....	....	....	....	....	.....
69⅛	9¼	37	9¾	1,244,383	N.P.	Mexican Seaboard Oil	....	Oct. 15, 24	91,800	19¼	19¾	16¼	16¼	— 2⅝
39⅜	22½	33	11	1,899,138	N.P.	Mid-Continent Petroleum	50cQ	Feb. 16, 31	13,000	10¼	10¼	9	9	— 1¼
3⅝	¾	2½	¾	908,171	N.P.	Middle States Oil ctfs.	....	.....	.....	....	....	....	....	.....
..	..	32	16	6,708,086	N.P.	Ohio Oil Co.	25cQ	Mar. 14, 31	29,500	10⅞	12⅜	10⅜	10½	— 1⅝
69	40¼	64¼	42	1,000,000	$50	Pan American Petrol. & Trans.	....	Oct. 20, 27	300	32	32	32	32	0
69¼	40½	67½	32	2,422,221	50	do B	....	Oct. 20, 27	1,800	32	32	31½	32	0
15¼	3	12⅜	1¾	199,370	N.P.	Panhandle Prod. & Refg.	....	.....	2,500	2¼	2¼	2	2	— ¾
76	47½	80	47½	25,666	$100	do pfd	....	July 2, 23	.....	....	....	....	....	.....
..	..	27½	6	2,937,900	N.P.	Petroleum Corp. of America	37½cQ	Dec. 31, 30	22,000	7¾	7⅞	6¾	6¾	— 1⅛
47	24¼	44¾	12	2,670,089	N.P.	Phillips Petroleum Co.	50cQ	Jan. 2, 31	52,265	9⅛	9⅛	7	7¼	— 1⅞
3⅜	1	2½	⅛	1,184,917	$25	Pierce Oil Corp.	....	.....	2,900	¾	¾	⅝	¾	— ⅛
51½	20	52	7½	150,000	100	do pfd	....	Feb. 1, 22	200	11½	12	11½	11½	— ½
5⅞	½	7⅛	1⅜	2,500,000	N.P.	Pierce Petroleum Corp.	10c	Feb. 16, 31	4,800	2½	2⅛	1¾	2	— ¼
65⅝	40½	54	11¼	2,435,670	$25	Prairie Oil & Gas Co.	50cQ	Mar. 31, 31	23,400	12⅜	13	9½	10¼	— 2½
65	45	60	16⅝	4,050,000	25	Prairie Pipe Line Co.	75cQ	Mar. 31, 31	10,700	22⅞	23	19¼	20	— 2½
25⅞	4	31	1	749,017	50	Producers & Refiners Corp.	....	Sept. 15, 23	1,300	3¾	3¾	3⅜	3⅜	— ⅞
46¾	25½	38	11½	56,907	50	do pfd	....	May 4, 25	170	13⅛	13⅛	11½	11½	— 2
30¾	20	27¼	7¾	3,038,370	25	Pure Oil Co.	....	Sept. 1, 30	17,800	7⅞	7⅞	6½	6½	— 1⅜
116	108	114¼	90½	130,000	100	do 8% pfd	$2Q	Apr. 1, 31	160	89¾	89¾	82¾	82¾	— 7¼
49⅜	22⅝	28¼	4⅛	2,891,735	25	Richfield Oil (California)	....	Sept. 1, 30	4,300	2⅝	2⅝	2	2¼	— ¼
42⅛	15	25¾	5	1,235,270	N.P.	Rio Grande Oil Co.	....	July 25, 30	13,000	6½	6½	4½	4½	— 2
64	43⅛	56½	37⅛	951,310	$13.40	Royal Dutch (N. Y. shares)	$1.3404	Jan. 31, 31	15,200	31⅝	31⅞	30	30	— 3
55¾	43⅜	48⅜	26	77,492	£2	Shell Trans. & Trading	96.6c	Jan. 23, 31	60	25⅞	25⅞	25⅞	25⅞	— ⅝
31¾	19	25½	5⅞	13,069,076	N.P.	Shell Union Oil Corp.	....	June 30, 30	23,850	6⅝	6⅞	5½	5⅞	— ¾
..	..	106¼	62	400,000	100	do pfd	$1.37½Q	Apr. 1, 31	1,200	40	40½	40	40	0
40⅛	15	37	5⅝	869,255	10	Simms Petroleum Co.	....	Sept. 15, 30	600	6½	6½	6½	6½	— ½
45	21	32	9¾	5,455,665	N.P.	Sinclair Consolidated Oil Corp.	25cQ	Jan. 15, 31	63,900	11⅜	11⅝	9⅞	10	— 1½
111	103	112¼	86	154,685	100	do pfd	$2Q	Feb. 14, 31	500	98	100	98	98¼	— 4¼
46½	42	42	10¼	1,097,650	$25	Skelly Oil Co.	50cQ	Dec. 15, 30	7,600	7¼	7⅜	5⅛	5⅛	— 2⅛
..	..	99¾	43	120,000	100	do pfd	$1.50Q	Feb. 1, 31	300	34½	34½	32	32	— 5
..	..	106	98	750,000	100	S. O. Export Corp. pfd	$2.50S.A.	Dec. 31, 30	2,000	104¾	104½	104	104½	+ ¼
81⅞	51½	75	42¼	13,016,434	N.P.	S. O. California	62½cQ	Mar. 16, 31	46,800	42⅞	42⅞	38	38⅜	— 4⅛
..	..	49	14¾	320,000	$25	S. O. Kansas	25cQ	Mar. 16, 31	1,800	13½	13¾	11	11	— 2¾
83	48	84⅞	43½	25,443,643	25	S. O. New Jersey	‡25cQ	Mar. 16, 31	140,600	40⅝	41	36⅝	36⅝	— 4½
48⅛	31¾	40⅜	19¾	17,809,530	25	S. O. New York	40cQ	Mar. 16, 31	73,400	20⅞	20⅞	18⅝	18¾	— 2
86⅜	55	70	39	1,416,911	N.P.	Sun Oil Co.	25cQ	Mar. 16, 31	2,700	40½	40⅝	37	37	— 4½
105½	100	107¾	97¾	100,000	$100	do pfd	$1.50Q	Mar. 2, 31	160	....	102	101	101	— 1½
24	5¼	9⅜	¾	1,026,979	N.P.	Superior Oil Corp.	....	.....	1,300	1	1	1	1	0
71⅞	50	60½	28¼	9,850,724	$25	The Texas Corp.	75cQ	Apr. 1, 31	118,400	27	27	21¼	22	— 5
23⅞	9⅛	14½	4	929,947	10	Texas Pacific Coal & Oil	....	Dec. 31, 29	5,100	4½	4½	3¾	3¾	— ¾
23½	10	17¾	5⅞	5,881,980	N.P.	Tide Water Associated Oil	30cS.A.	Feb. 16, 31	24,594	6⅛	6⅛	5¼	5¼	— ¾
90⅞	74⅛	89¾	56	732,550	$100	do pfd	$1.50Q	Jan. 2, 31	2,800	56½	56⅝	53⅛	53⅛	— 3⅛
40	14	31	13	2,191,820	N.P.	Tide Water Oil Co.	20cQ	Dec. 31, 30	400	..	17	13	17	— ⅞
97½	85⅛	94⅞	71	199,443	$100	do pfd	$1.25Q	Feb. 16, 31	400	68½	68½	67	67	0
..	..	24	12⅛	3,339,150	N.P.	Transcontinental Oil	....	May 1, 30	.....	....	....	....	....	.....
57	42⅛	50	20¾	2,201,008	$25	Union Oil Co. (California)	50cQ	Feb. 10, 31	21,500	20¼	20¼	16⅜	16⅜	— 4
..	..	38½	23	1,254,048	N.P.	Union Tank Car Co.	40cQ	Mar. 2, 31	900	21⅛	21⅛	21	21	— ⅛
42⅞	15	27	4⅛	777,603	N.P.	Warner Quinlan Co.	....	July 3, 30	1,900	4⅛	4¼	4	4⅛	— ⅜
38	25	29½	26	490,000	N.P.	White Eagle Oil & Refg.	....	Apr. 20, 30	.....	....	....	....	....	.....
29¾	12⅞	21	6½	428,967	N.P.	Wilcox Oil & Gas Co.	....	May 10, 28	1,300	7	8¼	7	7	— ⅜

•New high †New low ‡Also extra s-Stock §From close of preceding week. Total sales 1,021,695

Pittsburgh Stock Exchange

Transactions Week Ended April 24, 1931

	Sales	High	Low	Last	Change Over Week
Ark. Nat. Gas....	110	5	5	5	— ½
do pfd.....	350	6½	6½	6½	0
Devonian Oil....	160	7⅜	6⅞	6⅞	— ⅛
Lone Star Gas....	12,358	19	†16⅝	17	— ½
do pfd.....	80	104	104	104	— ½
Plymouth Oil....	2,125	11	10	10½	+ ½
Shamrock O. & G.	1,120	8¼	7	7	—1¾
†West. Pub. Serv..	3,385	9	†8¼	8¼	— ⅝

†New low.

Pittsburgh Curb Market

Transactions Week Ended April 24, 1931

	Sales	High	Low	Last	Change
Standard Oil of O.	100	52¼	52¼	52¼	....

Oil Company Earnings

First Quarter	1931	1930
Union Oil Co., California...	$1,800,000	$2,600,000
American Republics.....	*579,219	*194,975

*Loss.

Petroleum Corp. Reports Shift in Holdings

NEW YORK, April 25.—Petroleum Corp. of America since Dec. 31 has disposed of its holdings of 10,657 shares of Phillips Petroleum Co. stock and 5000 shares of General American Tank Car Co. stock, it was reported at the holding company's annual meeting. Part of its holding of 90,000 shares of Ohio Oil Co. common also has been sold.

Holdings in Prairie Oil & Gas Co. has been increased 900 shares to 582,800 shares. Investment in Prairie Pipe Line Co. stock remains unchanged at 555,600 shares. A block of 12,300 shares of International Petroleum Ltd., stock has been acquired.

H. D. Sheldon, secretary of the company, has been elected temporarily a director. Garrettson Dulin, New York banker, and R. E. Harding, president of the Fort Worth National bank, retired as directors. Other directors were re-elected.

Acme Oil to Issue Stock

TORONTO, April 25.—Acme Oil & Gas Co. proposes to change its capitalization from 1,500,000 shares of $1 par stock to 5,000,000 shares of no par stock and to offer stockholders rights to subscribe for one new share for each three of old stock held. Subscription price is 20 cents a share. Proceeds are to be used to develop the company's western Ontario gas properties and to retire floating indebtedness.

Trinidad produced 822,000 barrels of crude during January, exporting 317,000 barrels in that month. It also exported 150,000 barrels of gasoline.

N. P. N. Service Record

Some of the requests for information, data and advice, which were taken care of in various National Petroleum News offices in the past week are:

Maryland oil company furnished names and adresses of Pennsylvania refiners of petrolatum, and six producers in Venezuela who can ship crude in tankers.

* * *

Minnesota inquirer furnished references to sources for general discussion of refining problems for purposes of a thesis on this subject.

* * *

Missouri advertising agent sent by air-mail copy of N. P. N. in which was published article on business done at small grease station.

* * *

North Carolina oil jobber referred to sources for formulae for making insect spray.

* * *

Vermont oil jobber told where he may obtain litmus paper for determining amount of water in gasoline tanks.

* * *

New York oil machinery supply company given reference to publication on clay.

* * *

Indiana refiner furnished references to series of refinery accounting articles published in 1928 in N. P. N.

* * *

Pennsylvania inquirer furnished references to 30 N. P. N. articles published since the first of 1930 on gasoline pipelines; also furnished names and addresses of companies owning gasoline lines.

* * *

Minnesota inquirer referred to several sources for material from which he can prepare talk on oil.

* * *

Tennessee state department referred to Feb. 11, 1931 issue of N. P. N., page 67, telling how to blend two naphthas to meet A. S. T. M. distillation requirement.

* * *

Colorado oil company told what oil companies ship goods on inland waterways and referred to source for additional information.

* * *

Iowa inquirer told about refining plants of Pennsylvania motor oil maker.

* * *

British Colombian oil distributor furnished data as to how crude oil is marketed by Independent producers in the United States.

* * *

Colorado advertising agent told where he may obtain panorama photographs of oil fields.

* * *

Cincinnati branch of nationally known oil company furnished current retail prices of gasoline at various points in Germany.

* * *

Florida oil distributor furnished four names and addresses of jobbers from whom he can purchase gasoline.

* * *

Colorado oil jobber told where he can buy Pennsylvania bright stocks and neutral oils.

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LUBRICATING OIL AND SALES ENGINEER would consider change. Now employed as lubricating engineer, in charge of sales with major oil company. Best reference. Address Box 702.

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EXPERIENCED MARKETER, college graduate, desires connection selling high grade automotive oils. Thoroughly experienced in developing new territory and establishing distributors. Address Box 708.

SALESMAN—Fifteen years marketing experience, tank cars and package goods. Familiar with trade in Ohio, Western New York, Michigan and Canada. Address Box 705.

Situations Open

CHEMICAL ENGINEER with oil refinery experience, wanted for position in Sweden. Must be thoroughly familiar with latest methods for reclaiming petroleum by-products. Give full information regarding age, education, experience, references, salary expected. Address A. J., Room 1124, 342 Madison Ave., New York City.

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